

**EXHIBIT 3-a to PLAINTIFFS’
APPENDIX OF EXPERT REPORTS**

The Growth, Institutionalization, and Subversion of Narcotic Conservatism:

The Historical Background of the Opioid Addiction and Overdose Crises

Expert Report and Appendices Pertinent to

Cabell County Commission and City of Huntington, West Virginia v. AmerisourceBergen Drug Corporation, Cardinal Health, Inc., and McKesson Corporation, No. 1:17-op-45053-DAP and No. 1:17-op-45054

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Credentials and Biographical Sketch

David T. Courtwright is Presidential Professor Emeritus in the Department of History of the University of North Florida. He taught at the university for thirty years and in April 2019 he retired from full-time teaching. He remains active in research and refereeing and is an internationally recognized authority on the history of drug use and drug policy, an area in which he has published since 1978.

Courtwright's books include *Dark Paradise: A History of Opiate Addiction in America* (Harvard University Press, 1982, revised 2001); *Addicts Who Survived: An Oral History of Narcotic Use in America before 1965* (University of Tennessee Press, 1989, revised 2012); *Forces of Habit: Drugs and the Making of the Modern World* (Harvard University Press, 2001); and *The Age of Addiction: How Bad Habits Became Big Business* (Belknap Press of Harvard University Press, 2019). Two other books, *Violent Land: Single Men and Social Disorder from the Frontier to the Inner City* (Harvard University Press, 1996) and *No Right Turn: Conservative Politics in a Liberal America* (Harvard University Press, 2010) describe drug use and drug policy in relation to U.S. social and political history.

Courtwright's drug-related articles have appeared in the *New England Journal of Medicine*, *Annual Review of Public Health*, *Addiction*, *BioSocieties*, *Social History of Alcohol and Drugs*, *Business History*, *Drug and Alcohol Dependence*, and other journals listed in the appended c.v.

Courtwright has received several awards for his scholarly work. These include an appointment as the 2015 Douglas Southall Freeman Professor of History at the University of

Richmond and a research fellowship from the American Council of Learned Societies. He has received fellowships from the National Endowment for the Humanities, which in 2015 named him an inaugural recipient of its highly competitive Public Scholar Award. In 2002 the College of Problems on Drug Dependence conferred its Media Award for *Forces of Habit*, which also received the journal *Addiction*'s annual book award. With translations into Chinese, Japanese, French, Spanish, and Swedish, *Forces of Habit* has become both a standard international history of drug use and a widely read introduction to the field.

Courtwright has served as a member of the Institute of Medicine's Substance Abuse Coverage Committee, which in 1990 reported to Congress on the adequacy of U.S. drug abuse treatment. From 2009 to 2011 he served as president of the Alcohol and Drugs History Society (ADHS), an international scholarly organization dedicated to the study of licit and illicit drugs. He continues to serve on the ADHS's executive board and on the editorial board of its journal, *The Social History of Alcohol and Drugs*, published by the University of Chicago Press.

Courtwright has twice served as a primary grant reviewer for the National Institute on Drug Abuse. He has refereed articles for medical journals, including the *New England Journal of Medicine*, the *American Journal of Public Health*, and the *American Journal of Preventive Medicine*, as well as history journals such as the *Bulletin of the History of Medicine*. He serves on the *Bulletin*'s editorial board as well as those of *Pharmacy in History* (now *History of Pharmacy and Pharmaceuticals*) and *The International Journal of Drug Policy*. He has refereed drug-related book proposals and manuscripts for California, Cambridge, Chicago, Harvard, Johns Hopkins, North Carolina, NYU, Oxford, and other university presses.

Journalists in print and electronic media have interviewed Courtwright about his research. He has been quoted in such publications as the *New York Times*, the *Washington Post*, the *Atlantic*, *Smithsonian Magazine*, *CQ Researcher*, *Vox*, and the *Huffington Post*. His work and has been featured in such programs as National Public Radio's "All Things Considered" and "Weekend Edition;" Radio France's "La Fabrique de l'histoire" and "Culturesmonde;" the Australian Broadcasting Company's "Rear Vision;" and Virginia Public Radio's "Back Story." He has been invited to give lectures and papers on drug-history related topics in such venues as the Yale School of Medicine; Harvard's Kennedy School of Government and Radcliffe Institute for Advanced Study; the London School of Economics; Cambridge University; the National History Center; and the Office of National Drug Control Policy.

Courtwright has been recognized as an expert witness in federal district courts in Florida, Georgia, and Missouri. In 1993 and 1994 he testified about the historical background of U.S. drug laws in relation to constitutional challenges to crack-cocaine sentencing provisions. In May 2019 he testified as an expert witness in *State of Oklahoma v. Purdue Pharma L.P. et al.* He has also provided expert testimony for *In Re: National Prescription Opiate Litigation* for Cuyahoga and Summit Counties, Ohio; *State of Washington v. Purdue Pharma L.P. et al.*; and *In Re Opioid Litigation* for New York State and its counties of Suffolk and Nassau.

Courtwright is receiving no compensation for his services in this case.

Note on Historical Methods

Historians use a variety of methods to pursue a common goal, reconstructing a true story about the past. Different topics require different methods. The most appropriate methods for a

history of U.S. narcotic addiction epidemics in relation to changing therapeutic norms are the standard quantitative and qualitative techniques employed by historians of medicine. These include 1) the statistical analysis of data from such sources as collections of case histories, surveys of physicians and pharmacists, records of drug imports, and prescription samples; 2) the assembly and review of hearings, reports, statutes, regulations, and correspondence from government entities charged with regulating medical practice and controlling drug use; 3) the recording, transcription, and analysis of oral history interviews with a range of subjects, from patients in treatment to medical opinion leaders; and 4) the location and close reading of pertinent primary and secondary sources. Examples of primary sources consulted in this report include archived letters, minutes, and reports; advertising and promotional materials; articles published in contemporaneous medical journals and newspapers; and contemporaneous medical monographs and textbooks. Examples of secondary sources are books, articles, and conference papers written by professional historians; similar works by credentialed scholars in other social-science disciplines; and published accounts by investigative reporters with access to primary sources. These are all types of sources that medical historians rely upon professionally.

A key question in medical-historical investigations is whether the quantitative and qualitative analyses converge in support of a hypothesis. If, for example, one posits that addiction prevalence was rising (or falling) during a certain period, one ascertains whether the statistical evidence, contemporary observations, official reports, interviewee recollections, and secondary accounts consistently support the hypothesis. If not, one must account for the anomalous findings, for example by reference to known regional variations in addiction prevalence.

Once medical historians have identified patterns and explained (also by means of interlocking quantitative and qualitative analyses) why these patterns changed over time, they submit their work for peer review and criticism. Reviewers call attention to potentially contradictory evidence, possible alternative explanations, unexplored data sources, and other issues that must be addressed before publication.

Here I would add that the core historical finding of this report—that liberal prescribing practices have fostered iatrogenic opioid addiction, while conservative prescribing practices have prevented it—has been subjected to peer review and has already appeared in print. I have made this and other arguments in refereed books and articles published by selective university presses and journals that require review by multiple peers whose identities are unknown to the authors.

The secondary historical sources on which I draw, such as books and articles by Professors David Musto and Caroline Acker, have undergone similar independent review processes. They too appeared in print years before the filing of *Cabell County Commission and City of Huntington, West Virginia v. AmerisourceBergen Drug Corporation, Cardinal Health, Inc., and McKesson Corporation, No. 1:17-op-45053-DAP and No. 1:17-op-45054*.

Opinions

In the course of an epidemic of opiate addiction in the late nineteenth century medical and pharmaceutical professionals and public health reformers learned that it was dangerous to prescribe narcotic drugs to patients suffering from what is now called chronic nonmalignant pain (CNP). The principal risk of such treatment was addiction.

The knowledge of the addictive danger of prescribing narcotics for CNP was significant, lasting, and institutionalized.

It was significant because it helped end, through primary prevention, the country's first major opiate addiction epidemic.

It was lasting because warnings against prescribing narcotics for CNP became a fixture of medical instruction and literature.

It was institutionalized because it was expressed in laws and regulations enforced by federal and state agencies and courts that oversaw the licit narcotics trade. Regulators checked oversupply and overprescribing, which carried inherent risks of diversion and abuse, and they warned pharmaceutical manufacturers and distributors of the addictive potential of new semi-synthetic and synthetic products that they proposed to market.

This cautionary knowledge and these institutions prevented further large-scale epidemics of iatrogenic narcotic addiction until the end of the twentieth century. While there were periodic increases in *heroin* addiction, notably from the late 1940s to the early 1950s, and again from the late 1960s to the early 1970s, these episodes were nonmedical in character.

A necessary condition for the restoration of a mass market for prescription narcotics and, consequently, for a second large-scale epidemic of medical narcotic addiction was that cautionary axioms about treating CNP with opioids had to be inappropriately revised or rendered irrelevant. Prescription narcotic gatekeepers, medical and institutional, had to be persuaded that the warnings about iatrogenic addiction and related risks of expanded supply and availability had

been overemphasized to the detriment of pain patients. That, or the warnings no longer applied to newer narcotic remedies that were safe and non-addictive.

The revisionist campaign against narcotic conservatism crystallized in the early-to-mid 1980s. The published research of its early advocates mischaracterized historical experience with narcotics and their regulation and relied upon evidence that understated, or was irrelevant to, the long-term risks of outpatient opioid treatment for CNP.

Despite the flawed research, opioid manufacturers supported and broadcast the views of these and other revisionist critics. The manufacturers did so to undermine narcotic conservatism, the principal barrier to expanding the market for their opioid products. And they did so with the help of marketing and information services supplied by the Big Three drug wholesalers, which played more than a distributional role in the prescription opioid addiction and overdose crises that emerged at the end of the twentieth and the beginning of the twenty-first centuries.

Introduction: Opiate Addiction Epidemics in American History

Prior to the current epidemic of *opioid* addiction, the United States experienced three historically significant epidemics of *opiate* addiction. They were epidemics in the sense that each entailed an unexpectedly rapid increase in the number of new cases. They were opiate addiction epidemics because “opiate” was the adjective contemporaries then used for opium-based drugs.¹

¹ As late as 1974 *Dorland's Illustrated Medical Dictionary*, a standard authority, contained no entry for “opioid.” It referred only to “opiate,” defined as “a remedy containing or derived from opium.” *Dorland's Illustrated Medical Dictionary*, 25th ed. (Philadelphia: W.B. Saunders, 1974), 1092. “Opioid” did come into common usage until the late 1970s and 1980s.

The first of the three opiate addiction epidemics involved opium and morphine. It began around 1870 and peaked in the mid-1890s. A second, which involved heroin, occurred in the late 1940s and early 1950s. A third and larger heroin epidemic occurred in the late 1960s and early 1970s. The number of U.S. addicts ballooned to around 600,000, an increase reflected in the diagram attached as Appendix B.

Neither of the twentieth-century heroin epidemics originated in medical practice. After 1924 heroin was essentially an outlaw drug, an arrangement formalized by the 1970 Controlled Substances Act (CSA). However, the first opiate addiction epidemic, in the late nineteenth century, was different in character. Like the current opioid addiction epidemic, it had two main sources of initiation, medical and nonmedical usage.

The primary nonmedical source of the nineteenth-century epidemic was opium smoking by Chinese immigrants. This practice, widely regarded as a vice, spread in the white underworld during the 1870s and 1880s. The primary medical source of the first epidemic was the diffusion of hypodermic medication among American physicians that likewise occurred during the 1870s and 1880s. Patients also became addicted through self-medication with patent medicines or laudanum or other narcotic remedies. But the most common cause of medical addiction was the hypodermic administration of morphine, typically initiated by a physician. The likelihood of addiction increased if the physician or patient continued the injections during an extended and painful illness. Hundreds of reports of iatrogenic (physician-initiated) morphine addicts appeared in late nineteenth-century medical journals.

Two cases, reported in 1890, illustrate the situation. The first was of a sixteen-year-old Vermont girl suffering pelvic cellulitis. In 1882 a homeopathic physician began relieving her

pain with 1/8 grain (8 mg) of morphine hypodermically. A regular practitioner who later (and critically) described the case wrote that, “to save himself the annoyance of being called upon so often,” the girl’s doctor told her to procure a hypodermic syringe and use 1/4 grain (16 mg) at a dose. “This she did, and now with the reins in her own hands she steadily increased the dose and its frequency.” By 1890, when the patient died at age twenty-four, she was injecting 20 grains (nearly 1,300 mg) daily.²

The original reason that the girl’s physician injected morphine was to provide prompt relief from the pain caused by a stubborn bacterial infection about which he could otherwise do nothing. Late-nineteenth-century physicians often remarked patients’ suffering. They knew that, for alleviating painful symptoms, an injection of morphine had no equal. Adding to the addiction risk, no law prevented the woman from heeding her doctor’s advice of procuring her own hypodermic syringe and continuing the injections indefinitely. State control of medicinal opiate sales was then weak or nonexistent. Virtually all drug stores stocked opiates. Wholesalers like McKesson & Robbins kept local druggists supplied with a variety of injection equipment.³

Doctor-addicts had their own hypodermic syringes. The second representative case was that of a physician who began treating his facial neuralgia with “small doses” of morphine around 1877. Ten years later he had worked himself up to 30 grains (1994 mg) of morphine daily. His bloated body was covered with hypodermic abscesses that ran from his shoulders to

² E. W. Shipman, “The Promiscuous Use of Opium in Vermont,” *Transactions of the Vermont Medical Society*, no vol. (1890), 74-75.

³ McKesson and Robbins, *Illustrated Catalogue of Druggists’ Sundries, Fancy Goods, Surgical Instruments, Sponges, Chamois, etc.* (New York: Daniel G. F. Class, 1883), 137.

his calves. He died in 1887, age 40. Apart from the initial self-administration, the pattern was largely the same as the first case: Ongoing, often intense pain, followed by relief with morphine injections, followed by dependence, tolerance, escalating doses, and addiction, followed by complications and early death.⁴

Such deaths were preventable, as a generation of concerned physicians, legislators, journalists, and regulators came to understand. America's first encounter with widespread opiate addiction, in the late nineteenth century, taught a vital lesson. The lesson was that it was unwise to use narcotics, above all potent narcotics like morphine, to treat chronic pain, always excepting pain from terminal disease.

The first section of this report shows how this lesson was learned in the late nineteenth and early twentieth centuries; the second how it was reinforced by educational, legal, and regulatory practice throughout most of the twentieth century. Each of these sections examines a drug or drugs (prescription heroin, methadone, oxycodone, and morphine) to illustrate shifts in attitudes and practices. Excerpts from primary sources show how thinking evolved with respect to the perennial problem of prescribing and regulating narcotic medications.

Because the attitudinal shift occurred across the country, and found expression in a variety of private, professional, federal, and state initiatives, the report offers illustrative sources from within and without West Virginia. The growth and institutionalization of narcotic conservatism in West Virginia was, at bottom, a manifestation of a national trend that prevented

⁴ Shipman, "Promiscuous Use of Opium in Vermont," 74. Thirty grains was far from the limit. Leslie E. Keeley, *The Morphine Eater: Or, from Bondage to Freedom* (Dwight, Ill.: C.L. Palmer & Co., 1881), 23, reports a case of a physician who took 60 grains of morphine daily, a dose equal to nearly 3,888 mg.

the reoccurrence of widespread prescription opioid epidemics until the end of the twentieth century.

The third section describes the subversion of narcotic conservatism, which paved the way for the return of widespread abuse of and addiction to prescription opioids. This too was a national movement, though initially a small one inaugurated in the early 1980s by a handful of academic revisionists. Their efforts were significant, however, because they created the basis for a much larger, industry-financed and orchestrated campaign in which manufacturers and distributors worked to subvert narcotic conservatism.

I. Lessons Learned: The Growth of Narcotic Conservatism

A. Doctors, Pharmacists, Opiates, Pain, and Legal Reform, 1870-1919

Opium addiction was comparatively rare in the United States prior to 1830, morphine addiction rarer still. The medical literature on opiates focused, not on addiction, but on indications, contraindications, and toxic effects, which physicians confronted in cases of deliberate or accidental overdose. Opium was not infrequently deployed as a home remedy, particularly for diarrheal complaints. It was given to children as well as adults. When doses were misjudged, misfortunes followed.⁵

⁵ The early nineteenth-century concern with opium toxicity is apparent in Hugo Krueger et al., *The Pharmacology of the Opium Alkaloids*, part 2, supplement no. 165 to the *Public Health Reports* (Washington, D.C.: Government Printing Office, 1943), 1089-93.

Statistical and literary evidence suggests that opiate addiction became somewhat more widespread during the mid-nineteenth century, years punctuated by outbreaks of cholera and dysentery. The problem did not, however, become a full-blown epidemic until the 1870s and 1880s, decades during which the nation's per capita consumption of opiates approximately tripled. "The evil is like an epidemic. It is in the atmosphere," wrote one correspondent, stunned by the sharply increased consumption in Virginia in the mid-1870s. "It seizes a person, never to let loose." The lingering physical and psychological trauma of the Civil War was one factor in the increase, though not the primary one. Survey data consistently showed that most medicinal opium and morphine addicts were white, native-born women, and that medical personnel were far more frequently addicted than veterans.⁶

The two most important risk factors were exposure to narcotics and a history of chronic illness. Regardless of the addict's sex, palliation of recurrent pain and distress from such conditions as neuralgia, migraine, neuroma, chronic respiratory or gastrointestinal infection, anxiety, depression, and dysmenorrhea (painful menstruation) was the most common origin of addiction. "Uterine and ovarian complications," Dr. Frederick Heman Hubbard wrote in 1881, "cause more ladies to fall into the habit, than all other diseases combined." Dr. Jansen Beemer Mattison, also an addiction specialist, observed that the "vast majority of habitués" dated their addictions to the protracted use of opiates to treat pain. Even when the underlying source of the pain was resolved, such treatment "had created a demand for continual taking that would not be denied." Opium smoking to one side, late-nineteenth-century addiction was fundamentally a

⁶ David T. Courtwright, *Dark Paradise: A History of Opiate Addiction in America*, rev. ed. (Cambridge, Mass.: Harvard University Press, 2001), chaps. 1-2.

byproduct of medicating or self-medicating painful disorders. What the public needed to understand, the *New York Times* explained in 1878, was that two-thirds of the country's opiate addicts were respectable men and women who had become addicted, not through their own culpability, "but in consequence of their physical and mental ailments, and chiefly through the instrumentality of their physicians."⁷

Dr. W. C. Slusher, a Bluefield, West Virginia, physician recounted one such case, that of a woman "from a good family, reared in the country, accustomed to more than the average country person's pleasures and comforts." But morphine had changed all that, reducing her to a state of poverty and degradation. "She started down the scale of human depravity by taking morphine for neuralgia," Dr. Slusher reported, "prescribed, so she said, by a reputable physician." The woman had finally resolved to quit the morphine and, after enduring weeks of exhausting withdrawal, regained her old spirit. She scrubbed and ironed her old clothes, combed her hair, and walked into Slusher's office "with a wan smile on her face. I beheld a new woman. With this regeneration came the desire to return to her home and live as she formerly lived." Slusher nonetheless judged her ordeal preventable. "Every time a doctor prescribes an opiate to be taken by a patient he should think of the plight of some dope fiend; many of whom all practicing physicians have knowledge. For practically all of them blame doctors for their downfall."⁸

⁷ Ibid., chap. 2. The quotations are from "The Opium Habit: Some Extraordinary Stories of the Extravagant Use of the Drug in Virginia," *New York Times*, March 2, 1878, p. 2; Fred. [sic] Heman Hubbard, *The Opium Habit and Alcoholism* (New York: A.S. Barnes & Co., 1881), 17; J.B. Mattison, "The Genesis of Opium Addiction," *Detroit Lancet* 7 (1883): 303; and "The Opium Habit's Power: Popular Errors Corrected," *New York Times*, January 6, 1978, p. 5.

⁸ W.C. Slusher, "A Prodigal Sister," *West Virginia Medical Journal* 11 (1917): 353-355, <https://babel.hathitrust.org/cgi/pt?id=uc1.b4811067&view=1up&seq=367>. Dr. Slusher did not

The method of morphine administration that was most dangerous was hypodermic administration. Patients, Dr. Hubbard wrote, became familiar with the technique, acquired their own syringe, and were soon “confirmed in the habit.” Another physician who had himself become addicted after observing the “quick relief” opiates provided, cursed “that trouble-saving but insidious instrument, the hypodermic syringe. How many patients have learned the trick of that instrument, and learned it to their own ruin!” Dr. M.K. Lott, a Texas practitioner who had personally treated twenty-five addicts, warned colleagues that hypodermic administration lay behind the increase in “drug habitués throughout the country.”⁹

It took time for these lessons to sink in. Hypodermic medication gained a foothold in America in 1856, though it was not until well after the Civil War that most rank-and-file practitioners embraced the new technology. Initially they were enthusiastic. “I now enter the chamber of *suffering*,” Georgia physician Dr. William Greene wrote in 1867, “*knowing* that I have in my possession an *unfailing* remedy for pain. ‘Relieve me of my pain, Doctor,’ is the cry of the sufferer. With a Hypodermic syringe, this agonizing cry can be promptly, and without injury, hushed.”¹⁰

specify when the woman first became addicted. Judging from her dire condition, however, she had been using morphine for some time.

⁹ Hubbard, *Opium Habit*, 162; Keeley, *The Morphine Eater*, 147, 150 (referring to Dr. B——, surname partially redacted in original); M.K. Lott, “The Drug Habit: Its Treatment,” *Texas Medical Journal* 42 (1901): 157, 158, <http://hdl.handle.net/2027/hvd.32044102979390> (quotation).

¹⁰ William A. Greene, “Hypodermic Administration of Medical Agents,” *Atlanta Medical and Surgical Journal* 8 (1867): 97, all italicization and capitalization thus. Dr. George Pettey reported that one of his patients, a physician who had trained at Harvard in the 1870s, was told by one misinformed faculty member that hypodermic administration of morphine was nonaddictive. The medical student became addicted, as did four of his classmates. All but Pettey’s patient died

By 1870, however, medical journal contributors and correspondents were calling attention to the addiction risk of hypodermic administration. When New York City physician J.G. Sewall read a report that “when the long-continued use of morphia is required, the danger of the habit of opium eating will be avoided if we inject the opiate,” he objected. The opinion was “entirely a mistaken one,” he wrote, “and calculated to lead to grave errors in practice.” Sewall offered two cases, including that of a forty-year-old neuralgia sufferer who had become addicted, badly confused, and covered with puncture marks. That same year, 1870, warnings of the dangers of iatrogenic morphine addiction appeared in English-language journals published as far apart as California and Great Britain. “Most impatiently did she await the injection, morning and evening, often crying like a child,” an alarmed physician wrote of a neuralgic woman under his care. “And always exclaiming, as I entered—‘Oh doctor, shoot me quick!’”¹¹

prematurely, and he did not finally quit using until thirty-seven years later. “Fallacious teachings did much to increase the number of habitual users of opium,” Pettey wrote, “but aside from these influences the discovery of morphine and the perfection of the hypodermic syringe have been the greatest factors in extending the use of narcotics.” George E. Pettey, *The Narcotic Drug Diseases and Allied Ailments: Pathology, Pathogenesis, and Treatment* (Philadelphia: F.A. Davis Co., 1913), 2, Internet Archive transcript at https://www.archive.org/stream/narcoticdrugdis00pettgoog/narcoticdrugdis00pettgoog_djvu.txt.

¹¹ J. G. Sewall, “Opium-Eating and Hypodermic Injection,” *Medical Record* 5 (1870): 137; H. Gibbons, “Letheomania: The Result of the Hypodermic Injection of Morphia,” *Pacific Medical Journal* 12 (1870): 481, 495, “quick” p. 487 (quotation also appears on p. 7 of the offprint of the Gibbons article published by F. Clarke [San Francisco, 1870]); Clifford Albutt, “On the Abuse of Hypodermic Injections of Morphia,” *Practitioner* 5 (1870): 327-331.



Shooting morphine entailed risks other than addiction. These were graphically illustrated in Dr. H. H. Kane's *Drugs that Enslave* (1882), a classic work that remains available in paperback reprints and a Kindle edition. The illustration above was taken from a photograph of a male nurse at Bellevue Hospital shortly before he died; the abscesses and scarring were a consequence of morphine addiction. Kane reported that he had under his care other patients, including a young married woman, "who were quite as badly scarred." He emphasized that addiction carried multiple risks, including personal and familial ruin and the abnormal development of children born to opiate-dependent mothers. Though Kane thought patients with nervous disorders most vulnerable to addiction, he wrote that medicinal opiates, particularly injected morphine, ensnared people in all walks of life. Whatever the initial effects of relief and euphoria, the long-term consequences were quite the reverse:

Those not acquainted with the truth in this matter will be surprised to learn that there are to-day [sic] thousands of educated and respectable people in all countries and among all classes, confirmed habitués; slaves to a habit that is more exacting than the hardest taskmaster, that they loathe beyond all else, and yet that binds them in chains that they are wholly unable to break.

Everything must give way to this vice. Business is neglected or but imperfectly performed; family ties are sundered; hope, ambition, happiness, self-respect are meaningless words; the one thing that fills the mind is the gratification of this passion, which they loathe, but from which they cannot break.

Thus from day to day, week to week, year to year, they go on; not living—simply existing. Each day, each hour, each minute binds them more firmly, until at last they feel their own inability to cope with the demon that has overpowered them, and abandon themselves, hopelessly, listlessly, to the vice. Repentance comes too late. The momentary pleasure, the short period of excitement, the hour of vivacity bears fruit a thousand-fold; fruit, the bitter taste of which must last them a lifetime. That which at first gave them pleasure has now become the veriest tyrant, enforcing long hours of pain and anguish, gloom and despondency. They do not continue its use *because it gives them pleasure*, but simply because it is the only thing that, in increasing doses, can save them from the torment it has itself imposed; because without it they are sunk into a living hell.¹²

¹² H. H. Kane, *Drugs that Enslave: The Opium, Morphine, Chloral and Hashisch Habits* (Philadelphia: Presley Blakiston, 1881), 18-19 (block quotation, italics in original), 44 (children), 71-73 (Bellevue nurse). Kane also summarizes the international alarm over the dangers of the hypodermic administration of morphine. The original edition of his work is available online at

Cautionary articles and books like those of Sewall and Kane mark the beginning of the debate over the use of novel, potent, technologically advanced narcotic remedies that were purportedly safe and effective for treating chronic, nonterminal pain. Three points should be noted. First, the debate commenced well over a century before the introduction of another generation of purportedly safe prescription narcotics. Second, the debate drew attention to the danger, not only of addiction, but to addiction's physical and psychological sequelae. Third, the debate was resolved in favor of the skeptical position. Increasing numbers of physicians and journalists weighed in on the dangers of iatrogenic opiate addiction. The frequency and sophistication of their admonitions increased throughout the 1870s and 1880s, even as the opiate addiction epidemic worsened.

Representative of these dressing-downs was Dr. James F.A. Adams's "Substitutes for Opium in Chronic Disease," which appeared in 1889 in the *Boston Medical and Surgical Journal*. Dr. Adams reminded colleagues of three basic truths. First, opiates were highly toxic. Second, their benefits were offset by side effects that ranged from constipation to depression. Third, opiate therapy often led to addiction. Dr. Adams judged that 150,000 Americans had fallen victim to the "opium-habit" (a nineteenth-century term for addiction to any type of opiate), not counting those who had brought it on themselves by smoking the drug. Why not, Dr. Adams

<http://www.williamwhitepapers.com/pr/1881%20Kane%20Drugs%20That%20Enslave.pdf>; the various reprint editions are listed on the Amazon site, https://www.amazon.com/s?k=drugs+that+enslave&i=stripbooks&ref=nb_sb_noss.

urged, use newer, non-opiate analgesics and hypnotics to treat the symptoms that commonly motivated patients to seek out physicians?¹³

Dr. Adams's advice was sound. Yet it also raises a question. Why, if doctors were warned for nearly twenty years about the risk of iatrogenic addiction, did per capita consumption of medicinal opiates keep climbing, not reaching a peak until about 1895?

The answer is that the American medical profession was in a sorry state in 1870-1895. Scientific medicine was in its infancy. The average practitioner was poorly educated, possessing no more than two years of instruction in a proprietary medical school. Doctors lacked effective treatments for most diseases. The heart of medical practice remained diagnosis, prognosis, case management, and symptomatic treatment. Opiates were enormously tempting in this last regard, being potent pain relievers in the short term. Opiates developed a reputation as the "the lazy physician's remedy," a convenient way to pacify a pain patient without exerting effort to investigate the underlying disorder. Even physicians who were neither incompetent nor indolent faced economic pressure to prescribe. In the late nineteenth century too many doctors competed for too few discretionary dollars from too few patients. Professional incomes averaged around \$1,000 a year, or roughly \$28,500 in 2020 dollars. Doctors faced stiff competition from sectarian practitioners, as well as from colleagues with regular medical training. Physicians knew that, if

¹³ J. F.A. Adams, "Substitutes for Opium in Chronic Disease," *Boston Medical and Surgical Journal* 121 (1889): 351-56. Like many medical critics of opiate overprescribing, Adams had served in the Civil War. Historian Jonathan Jones reports that the self-reform effort was led by "young, elite ex-Union army physicians" concerned with restoring the profession's reputation as well as preventing addiction. "Guest Posts: "A Mind Prostrate": Physicians, Opiates, and Insanity in the Civil War's Aftermath," Medical Heritage Library, November 21, 2018, <http://www.medicalheritage.org/2018/11/21/guest-posts-a-mind-prostrate-physicians-opiates-and-insanity-in-the-civil-wars-aftermath/>.

they did not “shoot first,” a rival might, thereby gaining a valuable patient. “Before the advent of this handy instrument the patient expected to wait a suitable time for relief,” wrote Dr. George E. Pettey, who specialized in treating addiction. “In more modern times the physician who delays relieving pain for the action of slower drugs is in danger of losing his patient to the physician who is handy with the needle.”¹⁴

Then, from 1895 to 1915, the first narcotic addiction crisis waned. It did so for several interrelated reasons, all tied to medical progress. Surgery, revolutionized by antiseptic and aseptic techniques, effected lasting cures for some painful conditions. Public health reform, rationalized by advances in bacteriology, reduced infectious disease morbidity and mortality, particularly in cities. The prevalence of diarrheal diseases, often treated with opiates, declined. Greater diagnostic precision, made possible by new technologies like X-rays or Wassermann tests for syphilis, discouraged the unthinking palliation of disease. Should symptomatic treatment still be required, new, non-opiate alternatives for pain and fever were becoming available: acetanilide, phenacetin, and, ultimately, aspirin, which was introduced commercially in 1899 and soon became Bayer Pharmaceutical’s best-selling product. Though these drugs were not without

¹⁴ T.D. Crothers, “Medicolegal Relations of Opium Inebriety and the Necessity for Legal Recognition,” *Journal of the American Medical Association*, hereafter *JAMA*, 35 (1900): 413, “lazy” (comment on Dr. Crothers’s paper by Dr. Kenniston); Paul Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982), chaps. 1-2, income statistics pp. 84-85; Courtwright, *Dark Paradise*, 50-51; Geo. [sic] E. Pettey, “The Narcotic Drug Addictions. Etiological Factors; Reasons for Past Failures; Principles Involved in Treatment,” *Texas State Journal of Medicine* 6 (1910): 25.

side effects, recommending them for painful conditions like headache or arthritis was safer than prescribing opiates.¹⁵

There remained the problem of self-medication. Many patent medicines (proprietary, heavily advertised nostrums based on secret formulae) contained opiates. Fraudulent “doctors” touted opium-habit “antidotes” that were disguised but pricey morphine solutions. And many pharmacists honored ancient, tattered prescriptions or simply dispensed with formalities and sold narcotics directly to addicts. Morphine and soda water, admitted one, kept him in business. Even reputable druggists made their excuses, saying that to refuse sale would simply alienate customers, who would go elsewhere to purchase their drugs.¹⁶

Progressive doctors and pharmacists therefore lobbied, with growing success, for laws to regulate narcotic sales. One key piece of federal legislation was the 1906 Pure Food and Drug Act, which required patent medicine makers to list their ingredients. Wary consumers, whose worries were reinforced by muckraking journalists, looked at the list of toxic drugs on the label and decided they wanted no part of the product. Sales of all patent medicines containing opiates were down, a Boston wholesale druggist reported in 1908. The “trade in Winslow’s Soothing Syrup has been almost wiped out.” Druggists who had once ordered bottles “by the carload” now handled only “a few dozen at a time.” Researcher Hawkins Taylor, who analyzed a 1908 federal

¹⁵ Courtwright, *Dark Paradise*, 51-52; Jan R. McTavish, “Aspirin in Germany: The Pharmaceutical Industry and the Pharmaceutical Profession,” *Pharmacy in History* 29 (1987): 103-115.

¹⁶ Keeley, *Morphine Eater*, 146-147 (“antidotes”); “The Opium Habit’s Power,” *New York Times*, December 30, 1877, p. 8 (druggists).

survey, concluded that national sales of patent medicines containing opiates were off by 20 to 30 percent, even as opiate prescribing by physicians was simultaneously declining.¹⁷

Particularly hard hit were heavily advertised infant pacifiers like the aforementioned Mrs. Winslow's Soothing Syrup. Federal chemists denounced them as "baby killers" and warned that "if you value your child's health and life never use any of these preparations." The effect of such public denunciations was to reduce both the number of narcotized patent medicines and the doses they contained. The makers of Mrs. Winslow's dropped the morphine content from 0.4 grain (26 mg) per ounce in 1908 to 0.16 grain (10 mg) in 1911 to nothing in 1915.¹⁸

In 1907 the West Virginia Legislature enacted its own Pure Food Law, which required drug packages to state the presence and quantity of any opiate or its derivative. That same year the legislature gave the City of Charleston the power to make ordinances regulating the sale of narcotics and to punish violators, including by revocation of their medical and pharmaceutical licenses. And it enacted a narcotic prescription law intended to restrict sales to those holding a valid prescription signed by a legally authorized physician, dentist, or veterinarian. Pharmacists

¹⁷ John Phillips Street, "The Patent Medicine Situation," *American Journal of Public Health* 7 (1917): 1037-38, and William P. Millay to Hamilton Wright, August 24, 1908, box 29, Records of the United States Delegation to the International Organization and Conference (hereafter USIOC), Record Group 43, National Archives, Washington, D.C. (customers scared by ingredients). Quotations: "Boston Notes" (TS, 1908), no pp., quoting Mr. Carter of Carter, Carter, & Meigs, and Hawkins Taylor to Hamilton Wright, October 5, 1908, with unpaginated "General Statistics" in box 43, USIOC. The best-known journalistic exposé of the patent-medicine industry was Samuel Hopkins Adams, *The Great American Fraud*, 4th ed. (Chicago: Press of the American Medical Association, 1907).

¹⁸ "A Warning to Parents," *La Grange Journal*, January 5, 1911, p. 1, <https://texashistory.unt.edu/ark:/67531/metaph997059/> (quotes); David F. Musto, *The American Disease: Origins of Narcotic Control*, 3rd ed. (New York: Oxford University Press, 1989), 94 (doses).

were required to permanently retain the prescription, which was to remain open to official inspection, and to forbid refills unless reauthorized by a new prescription from the original prescriber. Finally, medical practitioners were forbidden from writing narcotic prescriptions for “habitual user[s],” unless the drugs were prescribed in good faith to patients under their professional care and deemed necessary for treatment and not “for the purpose of evading the provisions of this act.” Mercenary prescribers—“dope doctors” in common parlance—were subject to prosecution for misdemeanors, with fines and penalties for repeat offenses ranging up to \$200 and six months in the county prison.¹⁹

The national law aimed at controlling narcotic sales and suppressing dope doctors was the Harrison Narcotic Act. Proposed in 1910, it was not enacted until late 1914, owing to protracted negotiations with drug industry trade associations that sought to water down its most stringent provisions. The final version of the bill required all who dealt in or distributed narcotic drugs to register with the Treasury Department, to pay a small tax, and to keep accurate records

¹⁹ *Acts of the Legislature of West Virginia: Regular and Extra Sessions, 1907* (Charleston, W.V.: Tribune Printing Co., 1907), City of Charleston, Chap. 3, Sec. 62; Pure Food Law, Chap. 68, Sec. 4; Pharmacy Regulation, Chap. 12, Secs. 22-27, <https://babel.hathitrust.org/cgi/pt?id=umn.31951d022800215&view=1up&seq=1>. Like most other states that passed prescription laws in the early 1900s, West Virginia initially exempted over-the-counter preparations containing only small amounts of opiates. It also exempted common anti-diarrhea preparations, provided that they were “accompanied by specific directions for use and a caution against habitual use.” For a synopsis of other state laws see M.I. Wilbert, “Efforts to Curb the Misuse of Narcotic Drugs,” *Public Health Reports* 30 (1915): 893-923.

By 1915 the West Virginia Legislature had granted to several other communities, including Martinsburg, Bluefield, Fairmont, and Hinton, the power to regulate the sale and use of opiates. *Acts of the Legislature of West Virginia: Regular Session 1915: Municipal Charters* (Charleston, W.V.: Tribune Printing Co., 1915), pp. 169, 214, 251, 478, <https://babel.hathitrust.org/cgi/pt/search?q1=martinsburg&id=umn.31951d02280027t&view=1up&seq=11>.

of their transactions. Nominally a revenue law, the Harrison Act's real goal was to confine narcotic use to legitimate medical purposes and narcotic commerce to legitimate medical channels, where all transactions would be transparent and open to official inspection. Unregistered persons contemplating the unauthorized, clandestine sale of narcotics faced penalties of up to five years in prison and a \$2,000 fine.²⁰

The law, which took effect in March 1915, had a swift impact. Illicit drug dealing in the northern district of Texas, U.S. Attorney James Clifton Wilson reported in early 1916, had declined "90 percent since the passage of the Harrison anti-narcotic law." Federal officials in West Virginia noted generally good compliance among doctors and druggists and increased admissions to drug treatment facilities as narcotics became harder to acquire. By early 1916 eighty-four addicts, virtually all of whom were morphine users and the majority of whom were women, had been successfully withdrawn and discharged from the State Hospital in Huntington. "Drug users have become few in West Virginia since the federal law went into effect," the *Keyser Tribune* commented. Interviewed in 1919 by the *Wheeling Intelligencer*, Treasury Department agent Joe Peak said that "West Virginia has the reputation of being one of the cleanest states in the union, insofar as the unlawful sale of narcotic[s] and the number of drug addicts is concerned." He attributed the state of affairs to the combined efforts of federal, state, and local law enforcement officials.²¹

²⁰ *Statutes at Large*, vol. 38, part 1, 785-790, <https://www.loc.gov/law/help/statutes-at-large/63rd-congress/session-3/c63s3ch1.pdf>.

²¹ Wilson: "Says Sales of Drugs Cut Down 90 Per Cent," *Weekly Herald* (Weatherford, Tx.), February 17, 1916, p. 2, <https://texashistory.unt.edu/ark:/67531/metaph586167/>, reprinting an article for the *Dallas Herald Times*. West Virginia: "Narcotics Less Used in State," *Mineral Daily News*, September 3, 1915, p. 4 (compliance, seek treatment),

The Harrison Act, together with state regulation of narcotic sales, marked the beginning of a closed system of drug control—a system that would evolve, strengthen, and expand over the next seven decades. In theory, the firms regulated by federal and state laws fell into one of several distinct categories: Importers, manufacturers, wholesalers, and retailers. In practice, however, the distinctions among these categories, as well as between distribution and marketing, were often blurred. A good example is McKesson & Robbins, then as now an important supplier of narcotic medications. Like most members of the National Wholesale Druggists Association, McKesson & Robbins had long embraced the concept of “service wholesaling.” According to the company’s official history,

The essential theory was as sound as it was simple. Beyond taking orders passively, the wise wholesaler owed it to himself and to his customers to help increase sales and profits at the retail level. In this sense, the wholesaler was now much more than a middle-man; he was becoming an indispensable link between manufacturer and retailer.

McKesson & Robbins served as “an indispensable link” for two sorts of opiates, those manufactured by others and those it manufactured itself. The company handled imported morphine and domestically produced patent medicines, including Scotch Oats Essence, a nostrum whose real essence was whiskey and morphine disguised with a bitter tincture. By 1883

http://wvnewspapers.advantage-preservation.com/viewer/?i=f&d=01011837-12311940&e=harrison%20act&m=between&ord=e1&fn=mineral_daily_news_usa_west_virginia_keyser_19150903_english_4&df=1&dt=6; “Joe Peak, Noted Secret Service Operative, Is Here,” *Wheeling Intelligencer*, October 25, 1919, p. 9, https://chroniclingamerica.loc.gov/data/batches/wvu_iconia_ver01/data/sn86092536/00271768436/1919102501/0582.pdf. For additional information on the background, passage, and impact of the Harrison Act, see Courtwright, *Dark Paradise*, 100-104.

McKesson & Robbins was also making and selling its own branded morphine, a “much lighter and whiter article, which we offer with great confidence to the trade, guaranteeing quality and appearance.” The morphine could be injected through one of several models of hypodermic syringes the company promoted. One was said to offer “almost painless” injections; to be always reliable “at a critical moment;” and to be durable, cheap, and safe to use, whether by the nurse or by the patient.²²

In the first two decades of the twentieth century McKesson’s operations, like those of other narcotic suppliers and promoters, became subject to increasing federal and state control. However, not all Progressive-Era controls and sanctions were formal. Pharmacists and suppliers who dodged the new laws faced the threat of professional ostracism as well as prosecution. In

²² *The Road to Market; 125 Years of Distribution Service: McKesson & and Robbins, Incorporated, 1833-1958* (N.c.: McKesson and Robbins, 1958), 18, “essential theory” p. 31; *Prices Current of Drugs* (New York: McKesson & Robbins, 1883), vi, 38, 114, 451; Courtwright, *Dark Paradise*, 56 (Scotch Oats Essence ingredients). The advice about safe home use catches the eye, insofar as physicians were already warning against leaving hypodermic syringes with patients, e.g., F. M. Hamlin, “The Opium Habit,” *Medical Gazette* (1882): 427. Note also that, regardless of the actual manufacturer, the “McK. & R.” logo appeared on the hypodermic syringes in the company’s *Illustrated Catalogue*. This was done “in order to identify them [the promotional illustrations] specially as our own, and still further to prevent, as far as possible, having them copied and used by other houses.” (Quotation from the unpaginated preface following p. 151 of *Prices Current of Drugs*, cited above.)

McKesson remained a volume manufacturer and importer of opiates, as Schieffelin & Co. (another manufacturer and importer) reported to Hamilton Wright, July 20, 1908, box 29, USIOC. In 1928-1930 McKesson also expanded its national marketing operations by acquiring several dozen regional wholesalers. “The consolidation strengthened the position of the whole drug industry,” explains the official history. “Manufacturers, aware of the advantage of dealing directly with one organization whose experienced regional subsidiaries offered the quickest and most economical distribution of the greatest quantity of goods at a sound, steady profit, immediately agreed to help create an aggressive merchandising and advertising program. As for the retailers, 15,000 of them responded immediately by subscribing in 1929 to the new McKesson Plan of Service that would bring them modern selling techniques.” *Road to Market*, 28, 42-45.

New York a pharmacist wrote that every drug store should post a sign, “A greedy criminal druggist will sell you morphine or cocaine; we are not of that kind.” In Washington State the secretary of the state board of pharmacy threatened to inform newspapers of any drug stores that employed unregistered or unqualified clerks in the filling of narcotic prescriptions. A Boston physician, Dr. C.J. Douglas, condemned a local pharmacy for selling heroin so indiscriminately that the neighborhood had acquired the nickname “Heroin Square.” Charles A. West, a prominent wholesale druggist who also worked in Boston, said that when his firm received orders for opiates from those not entitled to them, he refused to fill them and returned their money. Donald McKesson, appearing before Congress in 1910 on behalf of McKesson & Robbins, testified that “orders which have come to us from suspicious people, we have put in the hands of the proper authorities for tracing, and prosecution if necessary.” By the early twentieth century ethical pharmacists steered clear of black or gray markets.²³

²³ “We Want to Know,” *Pharmaceutical Era* 29 (1903): 445 (“greedy”); “Laws Governing Narcotic Sales Enforced as Never Before,” *Pharmaceutical Era* 158 (1914), 17; “Board Examinations: Washington,” *Pharmaceutical Era* (1914): 78; Charles A. West to Hamilton Wright, August 14, 1908, vol. 3, Massachusetts to New Mexico correspondence, USIOC; and Donald McKesson testimony, December 14, 1910, U.S. House of Representatives, Ways and Means Committee, *Importation and Use of Opium* (Washington, D.C.: Government Printing Office, 1911), p. 132.

Dr. Christopher Koch, Vice President of the State Pharmaceutical Examining Board of Pennsylvania and Chairman of the Legislative Committee of the Philadelphia Association of Retail Druggists, testified at the same hearings on behalf of the legislation. “The poor unfortunate ‘dope fiend’ is more sinned against than sinning,” Dr. Koch said. “Had the law provided sufficient safeguards around the sale and distribution of these drugs, he would never have acquired such a habit. Had the manufacturer who sells these drugs any conscience, he would make it his business to know to whom he sold them in unusual quantities. Since he won’t do it on moral grounds, it becomes the duty of the government to compel him to do it by law” (86).

Dr. Harvey W. Wiley, champion of pure food and drug legislation, also testified. “I know the great importance of mitigating pain,” Dr. Wiley said, “but, gentlemen, it is better to suffer a few days than to be a slave for all the remainder of your lives if you happen to get well.” The solution, he argued, was stricter regulation. “I would not hesitate to impose additional burdens on

One such pharmacist, Henry P. Hynson, gave a candid appraisal of the situation. Hynson was a manufacturing pharmacist in Baltimore, a professor of commercial pharmacy at the University of Maryland, and an influential member of the American Pharmaceutical Association. These are the notes of an interviewer who spoke to him in 1908:

Hynson ... stated that the American Pharmaceutical Association strongly approves of the anti-opium crusade and has done a great deal in the last few years to direct the sale of narcotic drugs to licit channels and necessary use. He says that a few unscrupulous drug jobbing houses in Baltimore sell opium, morphine and other opium derivatives at retail to old habitués. First-class manufacturing chemists sell only to jobbers and first-class jobbers only to retail druggists. This is the general practice throughout the country.

A large number of retail druggists are unscrupulous and will sell opium and its derivatives whenever they can. Quantities of morphine are sometimes brought in from other cities and sold from hand to hand on the Baltimore streets. This has, however, been largely stopped since a new local ordinance passed, making it both finable and imprisonable not only to use or sell but to be found in possession of narcotics.

He knows personally of about 50 cases of the habitual hypodermic use of morphine, the habit having been contracted as the result of careless prescribing. He does not sell proprietary medicines containing opium, etc. He thought there had been a 25 % reduction in the sale of such medicines since the Pure Food and Drug Act went into effect.

[the pharmaceutical] trade if by them I could lessen the dangers which come from the indiscriminate use of these drugs” (146-147).

In his business today he prescribes [sic] less morphine than five years ago, because of the tendency on the part of physicians and surgeons to operate on those cases that formerly had opium in some form prescribed to lessen pain, or to the use of coal tar anodynes. He thought that the present practice of operating for painful diseases has appreciably lessened the amount of morphine used legitimately in this country and that, on the whole, there should have been a decrease rather than an increase in our importations of opium and morphine.²⁴

In fact, there had been a steady decrease in the per capita consumption of medicinal opiates during the first decade of the twentieth century. Though some officials had suggested otherwise, in hopes of spurring further diplomatic and legislative action, per capita imports were trending down, as were the percentages of prescriptions containing opiates. In 1888, 14.5 percent of prescriptions filled in Boston drug stores contained opiates. In 1908, the comparable figure for California was 3.6 percent.²⁵

Consumer awareness as well as professional concern lay behind the growing narcotic wariness, a wariness that gave some pharmaceutical manufacturers an opening. Well before the 1906 Pure Food and Drug Act, makers of some remedies for infants and children stressed the absence of narcotics. As early as 1884 the *Hampshire Review*, published in Romney, West

²⁴ “Professor Henry P. Hynson,” *Drug Trade Weekly* 4 (April 23, 1921), 15; “Baltimore Notes” (TS, 1908), box 43, USIOC, with minor spelling corrections and paragraph breaks.

²⁵ Virgil G. Eaton, “How the Opium Habit is Acquired,” *Popular Science Monthly* 33 (1888): 665 (Boston); Charles B. Whilden, California State Board of Pharmacy, to Hamilton Wright, September 17, 1908, p. 4, box 43, USIOC. For per capita trends and additional USIOC correspondence corroborating the decline in medicinal opiate consumption see Courtwright, *Dark Paradise*, pp. 25 (figure 5) and 213-214 n 139.

Virginia, featured an advertisement and testimonials for Dr. Samuel Pitcher's Castoria. The product contained no narcotics and mothers could safely use it "instead of the various quack nostrums which are destroying their loved ones, by forcing opium, morphine, soothing syrup and other hurtful agents down their throats, thereby sending them to premature graves." The no-narcotic marketing trend became more pronounced in the early twentieth century. A 1913 advertisement for Hyperol, a "Utero-Ovarian Tonic," proclaimed the remedy "absolutely free from all opiates or narcotic drugs." As late as 1934 Hyperol's manufacturer—Purdue Frederick—was still using the tag line, adding that, despite the absence of narcotics, the remedy was "a notable reliever of pain." Of all companies, however, Bayer was the best suited to take advantage of the growing preference for non-narcotic drugs. In the 1920s newspaper ads for Bayer Aspirin, which ran in West Virginia and throughout the nation, promoted the drug as a safe, physician-endorsed analgesic suitable for achy heads and teeth, neuralgia, neuritis, lumbago, rheumatism, and "pain" generally—conditions that, fifty years and a therapeutic revolution before, had been routinely treated with opiates.²⁶

²⁶ Castoria: *Hampshire Review*, April 12, 1894, p. 4, http://wvnewspapers.advantage-preservation.com/viewer/?k=castoria%20morphine&i=f&d=01011880-12311899&m=between&ord=k1&fn=the_hampshire_review_usa_west_virginia_romney_18940412_english_4&df=1&dt=10; Hyperol: *American Journal of the Medical Sciences* 146 (December 1913), 6, and "From the Collections: Drugs," Special Collections, Drexel University College of Medicine, <http://archives.drexelmed.edu/blog/?p=18>. Aspirin: e.g., *Moorefield Examiner* (Moorefield, W.V.), November 13, 1924, p. 1, http://wvnewspapers.advantage-preservation.com/viewer/?i=f&by=1924&bdd=1920&d=01011910-12311945&e=bayer&m=between&ord=e1&fn=moorefield_examiner_usa_west_virginia_moorefield_19241113_english_1&df=1&dt=10. Aspirin ads elsewhere: e.g., Texas's *Carrollton Chronicle*, March 14, 1924, p. 2, <https://texashistory.unt.edu/ark:/67531/metaph592203/>.

Figure 1: Advertisements for non-narcotic medicines referenced in the text, 1884-1934

What is

CASTORIA

Castoria is Dr. Samuel Pitcher's prescription for Infants and Children. It contains neither Opium, Morphine nor other Narcotic substance. It is a harmless substitute for Paregoric, Drops, Soothing Syrup, and Castor Oil. It is Pleasant. Its guarantee is thirty years' use by Millions of Mothers. Castoria destroys Worms and allays feverishness. Castoria prevents vomiting Sour Curd, cures Diarrhoea and Wind Colic. Castoria relieves teething troubles, cures constipation and flatulency. Castoria assimilates the food, regulates the stomach and bowels, giving healthy and natural sleep. Castoria is the Children's Panacea—the Mother's Friend.

Castoria.
"Castoria is an excellent medicine for children. Mothers have repeatedly told me of its good effect upon their children."
Dr. G. C. OGDON,
Lowell, Mass.

"Castoria is the best remedy for children of which I am acquainted. I hope the day is not far distant when mothers will consider the real interest of their children, and use Castoria instead of the various quack nostrums which are destroying their loved ones, by forcing opium, morphine, soothing syrup and other harmful agents down their throats, thereby sending them to premature graves."
Dr. J. V. KIDDERLEY,
Conway, Ark.

Castoria.
"Castoria is so well adapted to children that I recommend it as superior to any prescription known to me."
H. A. ANDER, M. D.,
111 So. Oxford St., Brooklyn, N. Y.

"Our physicians in the children's department have spoken highly of their experience in their outside practice with Castoria, and although we only have among our medical supplies what is known as regular medicine, yet we are free to confess that the merits of Castoria has won us to look with favor upon it."
NORRIS HOWLAND DUFFRENEY,
Boston, Mass.

ALLEN C. SMITH, Prop.,
The Centaur Company, 71 Murray Street, New York City.

Genuine



ASPIRIN

SAY "BAYER ASPIRIN" and INSIST!

Unless you see the "Bayer Cross" on tablets you are not getting the genuine Bayer Aspirin proved safe by millions and prescribed by physicians 24 years for

Colds	Headache	Neuralgia	Lumbago
Pain	Toothache	Neuritis	Rheumatism

Safe

Accept only "Bayer" package which contains proven directions. Handy "Bayer" boxes of 12 tablets. Also bottles of 24 and 100—Druggists.

Aspirin is the trade mark of Bayer Manufacture of Monaceticacidester of Salicylicacid



HYPEROL

(A Utero-Ovarian Tonic)

of exceptional value in the treatment of all functional diseases of women. Relieves uterine spasm, regulates the utero-ovarian circulation, stimulates physiologic processes and restores the general health. * Remarkably effective in amenorrhea, dysmenorrhea, sub-involution and kindred affections. Absolutely free from all opiates or narcotic drugs.

Gray's Glycerine Tonic Comp.

an unexcelled means of improving digestion, increasing assimilation and promoting nutrition—in brief, of raising functional activity of tissue cells and thus restoring the health and vital resistance of the whole body. * A reconstructive tonic of known dependability, the results from which are permanent—not transitory.

THE PURDUE FREDERICK CO.
135 CHRISTOPHER STREET NEW YORK.

Gray's Glycerine Tonic Comp.

Formula DR. JOHN P. GRAY

CONSTITUENTS	INDICATIONS
Glycerine	Auto-Intoxication
Sherry Wine	Atonic Indigestion
Gentian	Anemia
Taraxacum	Catarrhal Conditions
Phosphoric Acid	Malnutrition
Carminatives	Nervous Affections
	General Debility

DOSE—ADULTS: Two to four teaspoonsful in a little water before meals three or four times daily.

CHILDREN: One-half to one teaspoonful in water before meals.

"A Tonic of Known Dependability That Can Be Prescribed At Any Season of the Year"

Samples are sent only to the Medical Profession

THE PURDUE FREDERICK CO.

FUNCTIONAL DISORDERS OF WOMEN

are often amenable to

HYPEROL

when other measures have been found disappointing. Exerting its beneficial influence solely through regulating and reinforcing physiologic processes, this useful remedy is of unequalled value for the rational treatment of Amenorrhea, Dysmenorrhea, Subinvolution, Ovarian Neuralgia and kindred affections.

Available in bottles of 28 capsules and in tin boxes of 12 capsules

Although a notable reliever of pain, HYPEROL is absolutely free from opiates or narcotic drugs. Its active ingredients are

Hydrastine, Aloin, Ergotin, Apol, Quinine, Ferrous Carbonate Mass (Bland)

THE PURDUE FREDERICK CO. 135 Christopher St., New York, N. Y.

In this changing climate of opinion and practice the question of why some physicians were still writing frequent narcotic prescriptions drew attention. In 1919 Dr. Thomas S. Blair, head of the Pennsylvania Bureau of Drug Control, reported that one-third of state's physicians and dentists wrote 90 percent of narcotic prescriptions. While perhaps 150 of these men were out-and-out dope doctors, mostly addicts themselves, the heavy prescribers were more typically older and less competent practitioners who had been trained before the dangers of opiates were

stressed. By contrast, the conservative prescribers (8,000 of the state's 12,000 doctors) were either younger and better trained or in mid-career and "keeping abreast of the times." Dr. Blair's description of their outlook defines narcotic conservatism and shows how doctors' attitudes shifted during the early twentieth century, when a rising generation equated caution in prescribing opiates with medical progress and ethical practice:

These physicians are seeking for remedies specifically meeting definitely diagnosed pathology, whether the remedy be a drug, a serum, a vaccine or surgical intervention. But they know that specific remedies are few, and, so, they stress case-management in the run of practice, regarding the administration of symptomatic medication as only a *part* of case-management, and, often, the least important part. They know from experience and from reading that the narcotics *cure* no condition having a definite pathology, and they regard the administration of narcotics as emergency symptomatic medication, to meet violent pain and spasm, certain surgical and traumatic emergencies, acute inflammation of serous membranes, aggravated dyspnea, cases of pneumonia and typhoid fever with talkative delirium in which the patient simply *must* have sleep, inoperable cancer, and so on. They know that, in certain aggravated conditions, the temporary use of a narcotic is lifesaving, even though it is not specifically curative; and, thus, they prescribe narcotics conservatively and scientifically, ever keeping in view the associated danger of addiction. No law interferes with such practice, and these physicians no more think of supplying to a patient at one time 200 morphine pills than they do of giving an equal number of calomel tablets or aconitine granules.

Calomel was a violent, mercury-based purgative associated with the bygone days of depletion-based therapeutics. Aconitine was a notoriously toxic alkaloid sometimes administered in small doses to treat pain and other symptoms. By analogy and implication, unthinking palliation with frequent, heavy doses of narcotics was a risky and retrograde medical practice, associated with doddering “routinists” or greedy doctors out for a quick buck.²⁷

From 1919 on physicians and pharmacists in West Virginia and other states faced added scrutiny. In March of that year the U.S. Supreme Court held, in *Webb et al. vs. the United States*, that physicians might not, under the provisions of the Harrison Act, prescribe morphine “for the purpose of providing the user with morphine sufficient to keep him comfortable by maintaining his customary use.” Writing and filling prescriptions for decreasing amounts of narcotics in reduction treatment aimed at detoxification and cure was one thing. Quite another was the practice of Dr. W.S. Webb, a Memphis physician, and Jacob Goldbaum, a Memphis pharmacist. They had entered an understanding that Goldbaum (like Webb, registered under the Harrison Act) would use his official order forms to procure a large stock of morphine from wholesalers—thirty times the amount typically dispensed by larger retail druggists. Webb would liquidate the oversupply by writing prescriptions for fifty cents apiece, which Goldbaum would fill. Purchasers included out-of-state buyers. They secured and filled as many as ten one-dram prescriptions, each one made out in a separate and fictitious name, for a total of 17,718 mg. The Court held that Goldbaum had knowingly used his order blanks for a prohibited purpose and that

²⁷ Thomas S. Blair, “Is Opium the ‘Sheet-Anchor of Treatment’?” *American Journal of Clinical Medicine* 26 (1919): 830-831, italics in original, and “The Dope Doctor and Other City Cousins of the Moonshiner,” *Survey* 44 (1920), 18 (routinists).

Webb, as the government charged in its brief, was not prescribing in any ethical sense at all. He was trafficking in drugs.²⁸

One question the Supreme Court did not address in *Webb* was the legal status of clinic-based addict maintenance authorized by governments, an experiment subsequently tried by thirty-five municipalities (including Clarksburg, West Virginia) in twelve different states. Treasury Department officials opposed these programs as well. They managed to close most of them by 1920, with the last major program (in Shreveport, Louisiana) ceasing operations in 1923. During the brief time they were in operation, however, federal prosecutors brought cases against clinic patients who resold a portion of their maintenance supplies to other persons. They too were a threat to a system that sought to check all forms of narcotic diversion.²⁹

B. Illustration: The Scarcity of Iatrogenic Heroin Addiction, 1898-1924

Narcotic conservatism arose from reform forces within and without the medical and pharmaceutical professions. Progressive physicians and pharmacists, retail and wholesale,

²⁸ *Webb et al. v. United States* 249 U.S. 96; *Brief on Behalf of the United States, W.S. Webb and Jacob Goldbaum v. The United States* (Washington: Government Printing Office, 1919), 34-35. A Treasury Department agent subsequently reported that Goldbaum had also conspired with physicians to sell morphine from a “one horse drug store” in Alabama, and that he had been found to have \$170,000 worth of morphine in his possession. “Joe Peak, Noted Secret Service Operative, Is Here.”

²⁹ The clinic era is described in Courtwright, Joseph, and Des Jarlais, *Addicts Who Survived*, chap. 12. An example of prosecution for resale is “Opium Dealers on Trial with Drug Addicts,” *Houston Daily Post*, September 26, 1919, p. 5, <https://texashistory.unt.edu/ark:/67531/metaph608318/>.

warned against the overuse of narcotics and endorsed labeling and prescription laws. State legislatures and the federal government turned physicians and pharmacists, and those who supplied them, into registered gatekeepers for licit narcotic commerce and threatened criminal sanctions should they abuse that privilege. Whether addict maintenance fell under the heading of “abuse” was initially contested and remained, at least in academic and legal circles, a source of debate throughout the mid-twentieth century. What was not contested was the conviction that the overpromotion and over-prescription of narcotic medications for pain arising from chronic, nonterminal conditions was a dangerous practice.

The growth of narcotic conservatism helped to prevent medical addiction and to reduce its prevalence. The clearest example of this trend was heroin, a semisynthetic prescription opiate introduced in 1898. Though heroin was similar to morphine in its molecular structure and narcotic effects, it had a dissimilar early history, owing to a combination of more narrowly focused marketing and more skeptical evaluation. For all its potency, heroin triggered no wave of iatrogenic addiction remotely comparable to that which followed the popularization of morphine injections or the introduction of oxycodone pills for treating CNP.

Medically induced heroin addiction was in fact rare. In 1918, for example, Dr. Carl Scheffel, an expert on medical jurisprudence, described the background of fifty addicted patients who had voluntarily sought cures. Addiction treatment being expensive, his sample consisted largely of middle-class medical addicts. Only one of the patients, a victim of trigeminal neuralgia, had become addicted by using heroin. The rest followed the traditional pattern, most

having become addicted after a physician prescribed morphine for a chronic and painful condition.³⁰

Psychiatrist Lawrence Kolb, who became the federal government's leading authority on narcotic addiction in the 1920s and 1930s, reached the same conclusion. With Dr. John Remig, a Pennsylvania State Health Department drug-control inspector, Kolb reviewed the cases of 150 medical addicts who had begun using narcotics between 1898 and 1924—that is, between the year Bayer introduced heroin and the year Congress outlawed its manufacture. They found just two heroin users, 1.3 percent of the total. Kolb's hypothesis, "the use of heroin in medical practice seldom resulted in addiction," was borne out. Heroin addiction overwhelmingly originated from use "in the underworld for dissipation."³¹

Why were there so few medical heroin addicts? First, Bayer's marketing was relatively restrained. In contrast to morphine and cocaine, which had been introduced earlier and touted for a wide range of conditions, the literature on heroin emphasized its role as a specific in treating cough and respiratory disorders. It was often administered in small doses (some as low as 1 or 2 mg) and in tablet, pastille, or syrup form rather than by injection. "The fact that the therapeutic dose of heroin was much smaller than that of morphine made it less likely for heroin to cause addiction when it was prescribed," Kolb observed. A 1906 *Journal of the American Medical Association (JAMA)* literature review noted that heroin was "recommended chiefly for the

³⁰ Carl Scheffel, "The Etiology of Fifty Cases of Drug Addictions," *Medical Record* 94 (1918): 853-854.

³¹ "Questionnaire [sic] re Drug Habit," box 6, and Kolb to Remig, November 14, 1927, box 4, both Lawrence Kolb Papers, History of Medicine Division, National Library of Medicine, Bethesda, Maryland.

treatment of the air passages attended with cough, difficult breathing and spasm”—in other words, conditions like bronchitis, pneumonia, tuberculosis, or asthma. The same review nonetheless cautioned that heroin depressed respiration, that it was toxic in higher doses, and that addiction formed readily and with deplorable consequences. A few authorities did venture, in print, that heroin would make an effective general analgesic. This idea, however, was controversial. It soon drew fire from both German and American physicians.³²

Medical writers also rebutted a handful of early reports that heroin was not addictive and that it might serve as a treatment for morphine addiction. In a short-term sense this was true. Heroin, which breaks down into morphine and codeine in the bloodstream, brought temporary relief from opiate-addiction withdrawal symptoms. But that was hardly a cure. On close inspection, heroin looked every bit as dangerous as its predecessor alkaloids.

In a 1903 article, “The Heroin Habit Another Curse,” Dr. Pettey stated the case for wariness:

Many articles have appeared in medical literature during the last two years lauding this new agent, and doubtless much can be truthfully said in its favor, but some who have written in its praise seem to have been misled by the claim of its promoters, that even its prolonged use does not result in the formation of a habit.

³² Lawrence Kolb, *Drug Addiction: A Medical Problem* (Springfield, Ill.: Charles C Thomas, 1962), 51; “Heroin Hydrochloride,” *JAMA* 47 (1906): 1303. David T. Courtwright, “The Roads to H: The Emergence of an American Heroin Complex, 1898-1956,” in *One Hundred Years of Heroin*, ed. David F. Musto et al. (Auburn House: Westport, Conn., 2002), 4-5, describes early debates over heroin’s appropriate therapeutic uses.

When we consider the fact that Heroin is a morphine derivative, being the diacetyl of morphine, and that in this form it retains almost all of the properties of the salt from which it is derived, it does not seem reasonable that such a claim could be well founded. It is strange that such a claim should mislead any one [sic] or that there should be found among the members of our profession those who would reiterate and accentuate it without first subjecting it to the most critical tests, but such is the fact.

Dr. Pettey reviewed five previously published accounts by physician “promoters” who claimed that heroin either carried no risk of habit formation or was useful in treating morphine addiction. Reading the reports with an eye for clinical details, he saw that the findings did not add up. The patients had either been treated with heroin in hospitals following surgery (which is to say in a controlled environment and for a limited period of time) or as outpatients for “a few days.” In most instances the authors had not specified the length of treatment, or the length of time they had followed up the patients, so their assertions about the safety of heroin’s “continued use” were impossible to prove.

As for the salvation of morphine addicts, Dr. Pettey reviewed records of 150 drug addicts who had come under his care. Eight used heroin, but only three of these cases had begun with the drug. Another had been an abstinent morphine addict who relapsed when given heroin by a well-intentioned surgeon following a painful operation. “The other four cases were morphine users who had substituted Heroin for morphine with the idea that they were curing themselves of the

habit, but after the substitution was made they were unable to leave off the Heroin.” The conclusion was obvious: “Be not deceived, it is an opiate.”³³

II. Lessons Reinforced: The Institutionalization of Narcotic Conservatism

A. Education, Regulation, and Additional Legislation, 1895-1986

The principal benefit of such wariness, of not being deceived by ill-considered therapeutic advice or puffery, was the avoidance of new cases of addiction. This was why Drs. Scheffel, Kolb and Remig, and Pettey found that only 1.7 percent (6 of 350) of the addiction cases they collected originated in therapeutic heroin use. Of even greater benefit, though, was narcotic conservatism’s effect on iatrogenic opium and morphine addiction, the main source of the problem. The 1895-1915 decline in the number of opiate addicts depicted in Appendix B occurred because doctors were creating fewer new addicts, even as existing addicts became abstinent or, more typically, succumbed to age, illness, or overdose. The decline in prevalence had a demographic tailwind, at least for medical addicts who were sicker and older than the younger and less sympathetic “pleasure users” who occupied, by default, an increasingly conspicuous place in the changing American narcotic landscape.³⁴

³³ George E. Pettey, “The Heroin Habit Another Curse,” *Alabama Medical Journal* 15 (1903): 174-180, capitalization thus.

³⁴ Charles E. Sceleth and Sydney Kuh, “Drug Addiction,” *JAMA* 82 (1924): 679 (“pleasure users”). “Fifteen or twenty years ago,” Sceleth and Kuh noted, “most addicts acquired the habit through physical disease or discomfort. Today the number of new addictions through physicians’ prescriptions is small. The great majority of cases now result from association with addicts,

By the turn of the century, then, the American medical profession had absorbed a crucial lesson in primary prevention. For most of the twentieth century that lesson was reinforced by medical opinion leaders and health educators, legislators, and federal officials, whose combined efforts reduced the therapeutic exposure of opiate-naïve pain patients and thus lowered the risk of medical opiate addiction. Lowered, but not eliminated. For example, in New York City in the 1950s an addict with the right connections could pay \$25 to a doctor to write a prescription for Dilaudid (“drugstore heroin”) and another \$25 to a pharmacist to get it filled. But this sort of arrangement was expensive. Moreover, physicians and pharmacists who skirted the law—typically to supply respectable white rather than minority or “street” users—were essentially providing maintenance doses for existing addicts, not creating new ones.³⁵

More worrisome were periodic attempts by pharmaceutical manufacturers to break into the large pain market by making misleading claims about the safety of new narcotic analgesics. These attempts, however, were checked by federal regulators. Authorities presented a consistent message, backed by force of law: Minimize narcotic exposure.

In a word, narcotic conservatism was institutionalized. Medical, legislative, regulatory, educational, media, and philanthropic institutions pulled at the same supply-reduction oar, which

following their advice in taking a ‘shot’ or a ‘sniff’ for ‘what ails you’ and searching for new sensations.”

³⁵ David T. Courtwright, Herman Joseph, and Don Des Jarlais, *Addicts Who Survived: An Oral History of Narcotic Use in America before 1965*, rev. ed. (Knoxville: University of Tennessee Press, 2012), 174-175 (Dilaudid prescription). David Herzberg, “Entitled to Addiction? Pharmaceuticals, Race, and America’s First Drug War,” *Bulletin of the History of Medicine* 91 (2017): 586-623, and Courtwright, *Dark Paradise*, 136-137, describe covert physician maintenance.

is why historians refer to the mid-twentieth century as “the classic era of narcotic control.” This section offers several examples of those institutional efforts and shows how they reinforced and perpetuated the narcotic conservatism that emerged in the late nineteenth and early twentieth century.³⁶

The starting point for narcotic conservatism was medical education. Standard texts emphasized that symptomatically treating *any* form of dysmenorrhea with opiates ran the risks of addiction and professional condemnation. “He who is compelled to resort frequently to opium and stimulants,” the authors of *An American Text-Book of Gynecology* wrote in 1898, “must be considered devoid in diagnostic ability, and consequently ought not to be entrusted with the management of such cases.” Professors boasted in print of how infrequently they prescribed opiates and reiterated the need to carefully monitor patients. I am a neurologist, Dr. William J. Herdman told his students in 1902. I see more pain than most. Yet I write far fewer prescriptions for potent narcotics than the average general practitioner and still get better results.³⁷

Rank-and-file practitioners noted the pedagogical trend. The teaching now, Tennessee physician T.J. Happel wrote in 1895, was “when in doubt, do not give it.” C.W. Bonyge, a Los Angeles police surgeon, attributed the decline in medical addiction to “teachers of Materia

³⁶ Historians who have used “the classic era” as a chronological framework and reference point include Courtwright, Joseph, and Des Jarlais, *Addicts Who Survived*, 1-44; Caroline Jean Acker, *Creating the American Junkie: Addiction Research in the Classic Era of Narcotic Control* (Baltimore: Johns Hopkins University Press, 2002), 1-12; and Herzberg, “Entitled to Addiction?”

³⁷ Henry T. Byford et al., *An American Text-Book of Gynecology*, second rev. ed. (Philadelphia: W.B. Saunders, 1898), 105; Walter F. Boggess, “Morphinism,” *Medical Age* 17 (1899): 883; Herdman comment on C.B. Burr, “Concerning Morphine Addiction and Its Treatment,” *JAMA* 39 (1902): 1592.

Medica [Pharmacology] and the text books [being] very persistent in their warnings of the danger.” Dr. Oscar C. Young, in a 1901 paper before the New Hampshire medical society, said that new doctors had been so thoroughly warned about the dangers of opiates in their medical school lectures and ward rounds that their patients might endure “agonies worse than any hell for want of one-eighth of a grain of morphine.”³⁸

This was putting the matter too strongly. Narcotic conservatism was never narcotic nihilism. The proper standard of care, as Dr. Blair explained, was to limit opiate prescribing to cases involving emergencies, trauma, surgery, and acute or terminal pain. The concept of circumspect use to minimize addiction became a staple of mid-century journal articles. In 1931, for example, the *Journal of the American Medical Association* ran a series of articles on the indispensable uses of narcotics. In the introduction, journal editor Dr. Morris Fishbein explained that, whatever responsibility physicians bore for narcotic addiction in the past, the profession needed to “diminish as far as possible” future iatrogenic cases. This could be accomplished by limiting “the prescribing of narcotic drugs to cases in which the prescriptions are essential, and in which, after due thought, [the physician] is convinced that no other drug would suffice.” Dr. Fishbein quoted Dr. Walter L. Treadway, who was, like Dr. Kolb, an addiction specialist at the U.S. Public Health Service. Treadway stressed that, while some patients were constitutionally prone to addiction, “evidence is at hand ... to show that addiction may be induced by the

³⁸ T.J. Happel, “The Opium Curse and Its Prevention,” *Medical and Surgical Reporter* 72 (1895): 728; Bonyge to Hamilton Wright, August 12, 1908, box 29, USIOC; Oscar C. Young, “On the Use of Opiates, Especially Morphine,” *Medical News* 80 (1902): 154.

injudicious use of drugs in persons apparently free from any nervous or mental instability, and conversely, that due care in administration may avert this result even in the unstable.”³⁹

In 1933 Dr. Treadway summarized current thinking on the origins, prevention, and treatment of narcotic addiction. Ease of access to narcotics, Dr. Treadway said, was causally related to addiction. Though mentally unstable patients were especially vulnerable, care needed to be exercised even in cases where there was no apparent mental or nervous instability, as they too could become addicted. Physicians should consider whether the substitution of less dangerous analgesics would suffice. If opiates were indicated, they should never be prescribed in larger or more frequent doses than necessary. Hypodermic administration should be avoided, if possible, and patients should never be allowed to inject themselves. Those requiring daily doses were to be carefully monitored, kept in the dark as to the nature of the analgesia, and cut off as soon as the use of narcotics was no longer required.⁴⁰

Similar advice was on offer in Drs. Louis Goodman and Alfred Gilman’s *The Pharmacological Basis of Therapeutics*, an authoritative textbook first published in 1941 and thereafter continuously updated and reissued for use in medical schools throughout the United States. Goodman and Gillman emphasized the importance of using minimum effective doses for

³⁹ Morris Fishbein, “The Indispensable Uses of Narcotics,” *Journal of the American Medical Association* 96 (1931), 856, <https://jamanetwork.com/journals/jama/article-abstract/251256>. Other specialists concurred that, while individual susceptibility varied, opiates eventually produced addiction if exposure was prolonged, e.g., Pettey, *Narcotic Drug Diseases*, 18, 22.

⁴⁰ Dr. Treadway’s remarks appeared in a 1933 address that was published the following year as “Narcotic Drug Addiction,” *Texas State Journal of Medicine* 30 (1934): 7-18. Dr. Treadway also advised his audience to consult the 1931 *Journal of the American Medical Association* series on the appropriate uses of narcotics, which were by then available in book form.

specific conditions, such as shock following trauma. Even then the patient should never be told that he was receiving an opiate, never be entrusted with hypodermic means of administration, and never be given a prescription for more than necessary for “a short interval” of treatment before again seeing the physician. Though addiction ordinarily took two weeks or more to develop, it could manifest itself after only a few doses in some patients, another reason to administer narcotics for the briefest possible time. Should treatment require “several days,” the physician was to observe closely “after cessation of therapy to discover whether [the patient] is addicted.” This addiction risk underscored Drs. Goodman and Gilman’s summary judgment: “The physician should never employ a narcotic when another drug will accomplish the same end.”⁴¹

Bureau of Narcotics instructions were equally direct. Physicians should prescribe narcotics conservatively, and pharmacists should fill narcotic prescriptions warily. William S. Burroughs caught the prevailing mood in a 1955 letter, in which he described an encounter with a druggist he asked to fill a prescription for relatively mild codeine tablets. “His *pince-nez* falls off. Then he calls the doctor (but can’t find him in), asks questions, finally refuses to fill the script without talking to the doctor. Codeine!!” Even when stronger narcotics were clearly indicated, as in cases of advanced cancer and other terminal illnesses, Bureau guidelines warned

⁴¹ Louis Goodman and Alfred Gilman, *The Pharmacological Basis of Therapeutics: A Textbook of Pharmacology, Toxicology and Therapeutics for Physicians and Medical Students* (New York: Macmillan, 1941), 217-221, quotations p. 217, and Caroline Jean Acker, “From All-Purpose Anodyne to Marker of Deviance: Physicians’ Attitudes towards Opiates in the US from 1890 to 1940,” in *Drugs and Narcotics in History*, ed. Roy Porter and Mikuláš Teich (Cambridge: Cambridge University Press, 1995), 128. Acker adds that, after 1928, the American Medical Association routinely communicated with federal authorities and state licensing boards to identify physicians “convicted for violating the Harrison Act so that evocation of licensure and publication of the offenders’ names in *JAMA* might prevent their resuming their practices” (124).

prescribers to keep the dosage within professional norms. To be legitimate, a prescription for narcotics should not exceed the quantity “ordinarily recognized by members of [the] profession to be sufficient for the proper treatment of a given case,” written only for bona fide patients personally attended by the physician, and not intended for addict maintenance. Druggists acted as the system’s backstop. They had a “corresponding responsibility” to “determine, in good faith, that the prescription was issued in the course of professional practice, and not for the purpose of gratifying addiction.” And they were to exercise caution “to avoid being imposed upon by unscrupulous persons” and to carefully check all prescriptions for forgeries and alterations.⁴²

The guidelines reflect the Bureau’s supply-control priority. Apart from the maintenance taboo, Bureau officials were uninterested in deciding whether opiates were appropriate for individual patients. That was the doctors’ business. The Bureau was, however, concerned that the amounts they prescribed should be within reasonable and customary limits and that both physicians and pharmacists should monitor those receiving prescriptions. Iatrogenic addiction had two aspects: the direct risk of addiction to the patient and the indirect risk that over-prescription, from venal or other motives, would lead to diversion and enable secondary abuse and addiction and related social harms like theft and prostitution. Protecting public health and safety meant limiting narcotic consumption to what was medically and scientifically necessary.

Medical lecturers and attending physicians also stressed the importance of monitoring patients and minimizing dosage. “We were all—nurses, pharmacists, physicians—taught: Don’t

⁴² William S. Burroughs to Allen Ginsberg, April 20, 1955, *The Letters of William S. Burroughs, 1945-1959*, ed. Oliver Harris (New York: Viking, 1993), 273; H.J. Anslinger, “Prescribing and Dispensing Narcotics Under Harrison Narcotic Law,” Pamphlet No. 56, rev. ed. (Washington, D.C.: Bureau of Narcotics, 1938), 2-5.

overdose, don't overdose, don't overdose," said Martha Stanton, a nurse trained in the 1960s and 1970s. "You give the smallest amount of medication over the longest period of time because you don't want to give a patient too much, for fear of addiction." Dr. Marcia L. Meldrum, a hospital health care manager who became a Ph.D. historian specializing in the history of pain management, was even more succinct: "Physicians were trained to give minimal opioids for pain, often even less than prescribed, unless death seemed imminent."⁴³

Beyond standard medical training, specialized studies dealing with pain and its management also stressed the need for caution. The chapter on analgesia in *Chronic Pain*, a comprehensive anthology edited by specialists at the Duke University Medical Center, reflects the wariness still prevailing in the mid-1980s:

In patients with chronic benign states who have anxiety, depression, and/or severe character pathology, the potential for abuse is high and opioid drugs are not effective drugs for the management of pain. Similarly, caution should be exercised in prescribing opioid analgesics to patients who have a history of substance abuse. Informed consent from the patient should be obtained before using opiates for the management of chronic pain. The patient needs to have a clear understanding of the possible side effects, habituation, and physical dependency that may occur with opioid drugs. More potent opioid analgesics (methadone, morphine, oxycodone) should be used only when weaker opioid analgesics do not provide effective pain control. Regular follow-up visits are essential to monitor dose, to prevent or minimize tolerance, and to monitor side effects.

⁴³ Sam Quinones, *Dreamland: The True Tale of America's Opiate Epidemic* (New York: Bloomsbury Press, 2016), 94 (Stanton); Marcia L. Meldrum, "The Ongoing Opioid Prescription Epidemic: Historical Context," *American Journal of Public Health* 106 (2016): 1365.

The goal is to establish the lowest effective maintenance dose with a minimum of side effects.

Guidelines from the Federal Bureau of Narcotics [sic; the old name for what was by then the Drug Enforcement Administration] state that physicians may use narcotics to relieve acute pain. Physicians directly in charge of patients suffering from a chronic disease can use opioid analgesics for the relief of pain over an extended period if the doses are kept within limits accepted by other physicians, and if proper care and reasonable precautions are taken to prevent illicit diversion of the drugs. It is advisable that physicians document the indication for continuous use, maintain records of the drug use, and obtain consultation for the use of opioid analgesics in chronic pain patients.

Advice books aimed at lay readers contained blunter warnings. “Narcotics should not be used to manage chronic nonmalignant pain,” summed up one. “Their negative consequences usually outweigh any positive benefits.”⁴⁴

School children also received advice about narcotic drugs, although in their case the worry was youthful experimentation, not medical exposure. In 1935 West Virginia enacted a law requiring that the state’s public schools teach “scientific temperance.” In 1936 the West Virginia Department of Education responded with *A Guide for Teachers Concerning Alcoholic Drinks*

⁴⁴ Randal D. France, K. Ranga Rama Krishnan, and Ananth N. Manepalli, “Analgesics in Chronic Pain,” in *Chronic Pain*, ed. Randal D. France and K. Ranga Rama Krishnan (Washington, D.C.: American Psychiatric Press, 1988), 438. Though the imprint is 1988, the chapter contains no references postdating 1984, suggesting that it was composed around 1985 and subsequently published with the other chapters. See also Richard W. Hanson and Kenneth E. Gerber, *Coping with Chronic Pain: A Guide to Patient Self-Management* (New York: Guilford, 1990), 37 (quotation).

and Narcotics. The latter included opiates such as morphine, codeine, thebaine, and heroin. Elementary school students were to be warned of the personal and social dangers of these drugs, and trained to develop a deep, aversive response that would eliminate the chance of later commencing use through curiosity or association. “No one becomes a drug addict unless he wishes to take the drugs, except in rare cases of an initiation into the practice through medical prescription or patent medicines,” the *Guide* explained, reflecting the shift over the previous forty years. “Since this [medical] percentage is low among present day [sic] addicts, it is clear that only a reckless or careless or ignorant person is in danger of this peril.” The object of education was therefore to reduce recklessness, carelessness, and ignorance about dangerous drugs by developing an “anti-narcotic conscience among the people.”⁴⁵

Messages about the dangers of exposure to narcotic drugs reached larger and more diverse audiences through novels, plays, and motion pictures. The opium poppies that menaced Dorothy and her companions in *The Wizard of Oz* were described as lethal poisons in L. Frank Baum’s 1900 novel, and in the many theatrical productions and movies based on the book. (The most famous of the adaptations, Metro-Goldwyn-Mayer’s 1939 film, became the most widely viewed movie in history, according to the Library of Congress.) Nelson Algren’s National-Book-

⁴⁵ West Virginia State Department of Education, Division of Elementary Schools, *A Guide for Teachers Concerning Alcoholic Drinks and Narcotics* (Charleston, W.V.: State Department of Education, 1936), “scientific temperance” following title page, other quotations p. 83, <https://babel.hathitrust.org/cgi/pt?id=mdp.39015071422763&view=1up&seq=1>. The conscience and crusade themes carried over into junior and senior high school instruction. See West Virginia State Department of Education, Division of High Schools, *The Nature of Alcoholic Drinks and Narcotics and Their Effects Upon the Human System* (Charleston: State Department of Education, 1936), <https://babel.hathitrust.org/cgi/pt?id=mdp.39015071647163&view=1up&seq=3W>, pp. 23-26.

Award-winning novel, *The Man with the Golden Arm* (1949, film version 1955) featured a morphine-addicted war veteran and emphasized the danger of relapse and the agony of withdrawal. Theater and moviegoers revisited the history of iatrogenic addiction in Eugene O'Neill's play, *Long Day's Journey into Night*. Published and posthumously staged in 1956, the play went on to sell more than one million copies; win a Tony Award for Best Play and a Pulitzer Prize for Drama; and enjoy frequent revivals. In the 1962 film version, Katharine Hepburn played the morphine-addled Mary Tyrone, closely modeled on O'Neill's mother, Mary "Ella" O'Neill. Ella had become addicted in 1888, following the birth of her third son, Eugene. During a long, painful recovery "a cheap hotel doctor," as he is called in the play, gave her injections of morphine. She spent the next 25 years of her life addicted to the drug. Another classic, Harper Lee's *To Kill a Mockingbird* (1961; film version 1962), depicted a morphine addict named Mrs. Henry Lafayette Dubose. An ill-tempered, invalided widow residing in a Depression-era Alabama town, Dubose had become addicted years before through treatment for a chronic, painful condition. Told that she was dying, she struggled (with the unwitting help of the novel's young protagonists) to withdraw from the drug, being determined, as Atticus Finch put it, to "leave this world beholden to nothing and nobody."⁴⁶

⁴⁶ "The Power of the Poppy: Exploring Opium Through 'The Wizard of Oz,'" National Museum of American History, November 9, 2016, <https://americanhistory.si.edu/blog/opium-through-wizard-oz>; "The Wizard of Oz: An American Fairy Tale," Library of Congress, <http://www.loc.gov/exhibits/oz/ozsect2.html>; Nelson Algren, *The Man with the Golden Arm* (Garden City, N.Y.: Doubleday, 1949); Lisa Mulleneaux, "Ella's Addiction: The Story of a Mother and Morphine," *Hektoen International: A Journal of Medical Humanities* (Winter 2019), <https://hekint.org/2019/03/27/ellas-addiction-the-story-of-a-mother-and-morphine/>; Eugene O'Neill, *Long Day's Journey into Night* (New Haven: Yale University Press, 1956); "Long Day's Journey into Night, second edition," Yale University Press, <https://yalebooks.yale.edu/book/9780300093056/long-days-journey-night> (more than one million); and Harper Lee, *To Kill a Mockingbird* (Philadelphia: J.B. Lippincott, 1960), 108-121.

If professional opinion, official guidelines, school curricula, and mass-media portrayals sustained and strengthened narcotic conservatism during most of the twentieth century, so did Congress, state legislatures, courts, and administrators. The legal and policy pattern from 1906 to 1986 was one of increasingly tight control of supply and increasingly strict punishment of violators, punctuated by brief counter-cycles of liberalization. A timeline and summary of key federal legislative, judicial, and administrative developments from the first protective law to the current governing statute, the CSA, makes the trend clear:

1906 Pure Food and Drug Act. Created labeling requirements for ingredients, such as narcotics or alcohol, that were potentially toxic and addictive.

1909 Smoking Opium Exclusion Act. Banned all imports of opium prepared for smoking.

1912 Hague Opium Convention. Laid the groundwork for a system of international narcotic control in which supply was to be limited to estimated medical and scientific needs. The treaty pledged signatories, which included the United States, to enact and enforce laws to control domestic manufacture and sale of medicinal narcotics. (Subsequent diplomacy, led by the United States, tightened international production controls and reporting requirements, culminating in the 1953 Opium Protocol and the 1961 Single Convention. The Single Convention consolidated previous treaties, placed all parties under the same regulatory obligations, and created today's International Narcotics Control Board as a supranational oversight agency.)

1914 Harrison Narcotic Act. Used federal taxing power to create a registration system whose goal was to make commerce in opiates and cocaine transparent and confined to legitimate medical channels. Transactions outside medical channels were subject to criminal prosecution.

1919 Volstead Act. Reduced spirituous beverages to the status of prescription drugs and increased federal law enforcement capacity. Voided by Repeal in 1933.

1919 U.S. Supreme Court rulings in *United States v. Doremus* and *Webb et al. v. United States*. The former affirmed the constitutionality of the Harrison Act's exercise of the federal police power to control narcotic commerce. The latter reversed an earlier Supreme Court decision and ruled that a physician or pharmacist registered under the Harrison Act might not provide opiates for the sole purpose of sustaining an addict's habit, a practice known as "maintenance."

1919-1921 Treasury Department closure of most municipal narcotic clinics. The closures ended the attempts of more than thirty cities (including Clarksburg, W.V.) to provide some form of institutional maintenance as an alternative to physician prescriptions or the black market.

1922 Jones-Miller Act. Established the Federal Narcotics Control Board to oversee and regulate the import and export of narcotics and increased maximum penalties for narcotic law violations. Opiate imports were forbidden for other than medical purposes, and exports limited to nations with adequate licensing and control systems.

1924 Heroin Act. Forbade the importation of opium for the manufacture of heroin.

1928 Committee on Drug Addiction (CDA) established by the National Research Council. Originally focused on an attempt, ultimately unsuccessful, to find a non-addictive narcotic analgesic, the CDA (rechristened CDAN, the Committee on Drug Addiction and Narcotics) evolved into a skeptical referee of pharmaceutical companies' claims about the toxicity and addiction potential of new narcotic preparations.

1929 Porter Act. Funded two federal narcotic prison-hospitals (or “farms”) that opened in Lexington, Kentucky, in 1935 and in Fort Worth, Texas, in 1938. The former housed the Addiction Research Center (ARC), whose researchers used patient volunteers to evaluate claims about the addiction liability of new narcotics before they were marketed.

1930 Federal Bureau of Narcotics (FBN). Consolidated the functions of the Treasury Department’s Narcotic Division and the Federal Narcotics Control Board in a new agency headed by Harry Anslinger. As director from 1930 to 1962, Anslinger pursued a strict but consistent supply-control policy aimed at limiting pharmaceutical production, minimizing diversion, interdicting trafficking, suppressing nonmedical use, isolating addicts, forbidding maintenance, and punishing violators with mandatory minimum sentences.

1933-1937 Uniform Narcotic Drug Act. At the urging of the FBN, all but nine state states replaced patchwork legislation with a model national bill. West Virginia did so in 1935, and imposed penalties of up to five years in prison for second and subsequent convictions.

1938 Food, Drug and Cosmetic Act. Replaced and strengthened the 1906 legislation, adding requirements that manufacturers include directions for safe use, secure pre-marketing approval for new drugs shown to be safe, and refrain from making false therapeutic claims.

1951 Durham-Humphrey Amendment to the Food, Drug, and Cosmetic Act. Clarified the definition of prescription drugs as those that were habit-forming or sufficiently toxic to require medical supervision, including new drugs approved under the safety provisions of the 1938 law that warranted medical supervision. Required prescription drugs to bear a label, “Caution: Federal law prohibits dispensing without prescription.”

1951 Boggs Act. Imposed lengthy mandatory minimum sentences for narcotic possession and sale convictions and inspired “Little Boggs Laws” and other punitive measures in state legislatures. West Virginia increased prison terms from two to five years for first offenses; from five to ten years for second offenses; and from ten to twenty years for third and subsequent offenses.

1956 Narcotic Control Act. Further increased fines and mandatory minimum sentences and made possible the death penalty in cases involving narcotic sales to minors.

1962 White House Conference on Narcotics and Drug Abuse. Raised possibility of less punishment and more treatment for heroin addicts and addressed the need to bring widely abused non-narcotic drugs (e.g., barbiturates, amphetamines) under tighter control.

1965 Drug Abuse Control Amendments. Limited the number of refills for a single prescription and imposed stricter record keeping by manufacturers, distributors, pharmacists, and physicians who dispensed drugs directly. Created within the FDA a new Bureau of Drug Abuse Control (BDAC), which was concerned with barbiturates and amphetamines and other psychostimulants.

1968 Bureau of Narcotics and Dangerous Drugs (BNDD). Formed by a merger of the FBN and BDAC and relocated in the Department of Justice, the BNDD was the nation’s lead drug enforcement agency until 1973, when Congress authorized further mergers to create the Drug Enforcement Administration (DEA).

1970 Controlled Substances Act (CSA). Rationalized and reformed the accumulated drug-control legislation into what Attorney General John Mitchell called “one body of organic law.” The centerpiece of the CSA was the scheduling system, which allowed the FDA in consultation with

BNDD (later DEA) to sort drugs into five categories according to their therapeutic value and abuse potential. Schedule I drugs were prohibited. Schedule II drugs, which included medical narcotics like Dilaudid or oxycodone, were the most tightly regulated. They warranted no prescription refills, triplicate order forms for transfers, BNDD production quotas, enhanced storage security requirements, and BNDD preapproval for all imports and exports.⁴⁷

The CSA formalized, strengthened, and expanded the closed system of distribution that had been evolving for over half a century. “Closed” meant that transactions could lawfully occur only among authorized registrants, typically when a registered manufacturer sold to a registered

⁴⁷ Mitchell to House Speaker John W. McCormack, July 15, 1969, “Comprehensive Drug Abuse Prevention and Control Act,” vertical files, Drug Enforcement Administration Library, Arlington, Va., (quote) and Kenneth C. Baumgartner and Michael X. Morrell, “Pharmaceutical Industry Regulation by the Department of Justice,” *Syracuse Law Review* 23 (1972): 203-205 (Schedule II procedures).

The timeline and summaries draw on Acker, *Creating the American Junkie*; Richard J. Bonnie and Charles H. Whitebread II, *The Marijuana Conviction: A History of Marijuana Prohibition in the United States* (New York: Lindesmith Center, 1999), uniform law data p. 115; Courtwright, *Dark Paradise*; Courtwright, Joseph, and Des Jarlais, *Addicts Who Survived*; Joseph Spillane and William B. McAllister, “Keeping the Lid On: A Century of Drug Regulation and Control,” *Drug and Alcohol Dependence* 70 (2003): S5-S12, [https://www.sciencedirect-com.dax.lib.unf.edu/science/article/pii/S0376871603000966](https://www.sciencedirect.com.dax.lib.unf.edu/science/article/pii/S0376871603000966); *Federal Drug Control: The Evolution of Policy and Practice*, ed. Jonathon Erlen and Joseph F. Spillane (New York: Pharmaceutical Products Press, 2004); David Herzberg, *Happy Pills in America: From Miltown to Prozac* (Baltimore: Johns Hopkins University Press, 2009); and Musto, *American Disease*, 3rd ed.

West Virginia laws: *Acts and Resolutions of the Forty-Second Legislature: Regular Session, 1935*, Uniform Narcotic Drug Act, Chap. 47, Sec. 23, <https://babel.hathitrust.org/cgi/pt?id=umn.31951d02280047n&view=1up&seq=7>, and *Acts of the Fiftieth Legislature of West Virginia: Regular Session, 1951*, Chapter 154, Article 8-a, <https://babel.hathitrust.org/cgi/pt?id=umn.31951d02280055o&view=1up&seq=7>. In 1971 the West Virginia Legislature adapted the state’s uniform drug law to conform to the scope and schedules of the CSA. Uniform Controlled Substances Act, *Acts of the Legislature of West Virginia, 1970-1971*, Chapter 60A, <https://babel.hathitrust.org/cgi/pt?id=umn.31951d02280066j&view=1up&seq=4>.

distributor, which in turn supplied a registered retail pharmacy, which in turn supplied the ultimate consumer, a patient possessing a legitimate prescription issued by a registered medical or dental practitioner. Scheduled drugs were to remain under the control of registrants, and only registrants, until such time as they reached their intended medical users.⁴⁸

The key challenge facing the closed system was the volume of commerce and the number of registrants. The new law regulated the conduct of nearly half a million professionals, from drug makers and distributors to health care providers. Even with expanded powers, no agency could possibly monitor every transaction. This had always been true, which was why, over the course of a century, precautionary professional norms had both strengthened and co-evolved with statutory narcotic controls. The CSA, which took effect in 1971, assigned to registrants the responsibility for safeguarding the newly consolidated system as well as following its rules. The *Code of Federal Regulations* stipulated that registrants were to implement storage and shipping security controls to prevent diversion. They were to immediately report “any significant loss of any controlled substances.” They were to make good-faith inquiries to determine that their customers had registered with the DEA. And they were to “design and operate a system to disclose to the registrant suspicious orders of controlled substances. The registrant shall inform the Field Division Office of the Administration in his area of suspicious orders when discovered

⁴⁸ Brian T. Yeh, “The Controlled Substances Act: Regulatory Requirements,” Congressional Research Service, December 13, 2012, p. 4, <https://fas.org/sgp/crs/misc/RL34635.pdf> (“closed”).

by the registrant. Suspicious orders include orders of unusual size, orders deviating substantially from a normal pattern, and orders of unusual frequency.”⁴⁹

In historical and legal terms, the CSA was the finishing touch on a drug-control system that the federal government had been building since the Progressive Era of the early twentieth century. The system was meant to protect the American public against illicit traffickers as well as licit pharmaceutical manufacturers and distributors who might be tempted to employ irresponsible marketing, sales, and distribution practices. The difference was that the new law went well beyond the traditional emphasis on suppressing the illicit trafficking of narcotics like heroin. It recognized that the drug problem lay more broadly in the proliferation and under-regulation of licit psychoactive pharmaceuticals. As one FDA official put it, mid-century drug control was like a “great big boiling kettle with a few handles on it. We never have a hand on every handle.” The CSA was a bipartisan attempt to grip the handles and pull the kettle from the fire. To do so Congress created a closed regulatory system beyond anything that had existed before. The CSA increased the scope and powers of the BNDD and its successor agency, the DEA, and imposed additional reporting and anti-diversion responsibilities on the licensed professional registrants they oversaw.⁵⁰

⁴⁹ 21 CFR Ch. II (April 1, 1996 edition) §§ 1301.73, 1301.74, <https://www.gpo.gov/fdsys/pkg/CFR-1996-title21-vol9/pdf/CFR-1996-title21-vol9-sec1301-74.pdf>. The half-million estimate is from Spillane and McAllister, “Keeping the Lid On,” S10.

⁵⁰ Spillane and McAllister, “Keeping the Lid On,” S5 (quotation), S10.

Federal regulators remained vigilant after the CSA's 1970 enactment. Though most media attention fell on Congressional hardening of the CSA to combat illicit drugs (for example, by amendments passed in 1980, 1986, and 1988 that imposed stricter punishments for Schedule I trafficking offenses), regulators continued to ratchet up controls over the licit trade. Between 1970 and 1977 they scheduled thirty-five additional drugs, including so-called minor tranquilizers. They rescheduled eight others by moving them up into Schedule II. The six drugs that were decontrolled were mostly narcotic antagonists—that is, drugs that *reversed* the effects of narcotics.⁵¹

In the 1970s, then, narcotic conservatism evolved toward broader psychotropic conservatism for licit drugs. The 1970s were to sedatives, tranquilizers, and psychostimulants what the turn-of-the century had been to prescription narcotics: A period of reaction to widespread abuse, addiction, and overdose that fostered both legal and attitudinal changes. In 1980 attorney Robert T. Angarola, who served as a drug-policy adviser in the Nixon and Carter administrations, told an interviewer that with “prescription drugs like barbiturates, tranquilizers, amphetamines, things like that[,] we have seen an amazing drop off, a 50% cutback in the number of prescriptions for a lot of drugs that should not have been written. It is an educational process . . . I think we are going to see more of that in the next four to five years, and awareness

⁵¹ David T. Courtwright, “The Controlled Substances Act: How a ‘Big Tent’ Reform Became a Punitive Drug Law,” *Drug and Alcohol Dependence* 76 (2004): 9-15; U.S. Department of Justice, *Summary of Drug Control Actions Under the Controlled Substances Act of 1970* (Washington, D.C.: DEA Office of Compliance and Regulatory Affairs, 1977).

on the part of consumers and professionals that you need to question medication before you just take it blindly[;] very healthy.” History had repeated itself, belatedly but in a good way.⁵²

B. Illustration: Control of Methadone, Oxycodone, and Morphine, 1941-1974

A key reason that the federal government had to keep adjusting the drug-control system was that the pharmaceutical industry kept developing potent new psychoactive drugs, including synthetic and semi-synthetic opiates. These innovations were not necessarily bad. As the preamble to the CSA states, drugs in schedules II through V had legitimate and healthful benefits when properly used, “substantial and detrimental” harms when improperly used. The object of policy was to regulate drugs in a way that maximized their health benefits while minimizing their harms. This public goal was in tension with the profit-making aims of the makers and distributors of psychoactive drugs. Maximum profit, particularly in a large market like CNP patients, required minimizing regulatory restrictions and oversight.⁵³

The result was a cat-and-mouse game that played out during the postwar decades. When it came to opiates, the cat—the federal government—usually won. Methadone, for example, was heavily regulated before, during, and after the maintenance revolution of the 1960s and early 1970s. Knowledge of how to make methadone, manufactured by I.G. Farben during World War II, arrived in the United States as part of the postwar haul of German scientific and technical

⁵² “Interview with Bob Angarola of Domestic Policy Staff, November 26, 1980 ... Interviewer: Emily Soapes” (TS, 1980), 12, Jimmy Carter Presidential Library, https://www.jimmycarterlibrary.gov/assets/documents/oral_histories/exit_interviews/Angarola.pdf, with bracketed changes in punctuation to the transcript inserted for clarity.

⁵³ *Statutes at Large, 1970-1971*, vol. 84, part 1 (Washington, D.C.: Government Printing Office, 1971), public law 91-513.

information. Where FBN officials saw danger, drug companies saw opportunity. Firms like Eli Lilly, Abbott, and Winthrop wanted to bring the drug to market as a synthetic analgesic. The FBN wanted to limit its manufacture and distribution because CDAN experiments proved the drug to be addictive.

The experiments included trials on an unspecified but reportedly large number of detoxified narcotic addicts in federal institutions. Investigators reported that

Most of the men expressed satisfaction with the effects of the drug as long as 10-mg doses, or higher, were given. The greater the dose given the greater the satisfaction expressed by the addicts. Most subjects stated that the effects were similar to those of morphine, heroin, or dilaudid [sic], but were slower to develop. Intravenous doses produced the greatest degree of satisfaction.

Definite euphoria has been observed in a large number of cases following the injection of amidone [i.e., methadone, also called Dolophine]. The patients became more talkative, boasted of their exploits, asked for more of the drug, and attempted to devise ways to get even more. Typical comments following injection of the drug were ‘That is great stuff. I wouldn’t have believed it possible for a synthetic drug to be so like morphine. Can you get it outside? Will it be put under the narcotic laws? I wish I could get some to kick my next habit with.’

The last remark was prescient. Because methadone was long-acting when taken orally, it turned out to be useful for tapering addicts during withdrawal. More controversially, it could be used for long-term maintenance, as Drs. Vincent Dole and Marie Nyswander were to show in the 1960s.

But in 1946 the subjects' comments were simply taken as evidence "that narcotic drug addicts would abuse methadon [sic] and would become habituated to it if were freely available and not controlled."⁵⁴

More alarming was the prospect, which Anslinger outlined in high-level meetings in April 1947, that numerous pharmaceutical companies, which had filed or contemplated filing FDA new drug applications (NDAs) for methadone, would produce a huge methadone surplus that "would find its way into abusive use." Anslinger said that "experience had shown that where there was overproduction there would be diversion." CDAN's experts unanimously agreed "that such overproduction would inevitably be reflected in the spread of drug addiction." Unfortunately, a primary means to prevent oversupply, the FBN's ability to impose production quotas, had been called into legal question. Methadone was a synthetic drug. It was not derived from opium. Hence it was arguably not subject to the usual narcotic manufacturing controls.⁵⁵

The industry lost the argument. On July 31, 1947, following a round of reports and public hearings, President Harry Truman issued a proclamation that methadone had "an addiction-forming and addiction-sustaining liability similar to morphine." It was thus an opiate and thus subject to federal controls over manufacturing, distribution, and prescribing. The FBN then directed that the drug be dispensed with the same medical and pharmaceutical care as morphine.

⁵⁴ Quotation from "Tolerance and Addiction Liability of 4, 4-Diphenyl-6-Dimethylamino-Hepatone-3" (TS, 1947), "Amidone Investigation," file 0480-203A [hereafter Amidone file], Records of the Drug Enforcement Administration, RG 170, National Archives II, College Park, Maryland.

⁵⁵ CDAN meeting minutes of April 15, 1947 ("abusive") and April 22, 1947 ("experience"); Lewis H. Weed to Secretary of the Treasury John W. Snyder, April 24, 1947 ("spread"), all Amidone file.

Physicians were to report all cases of methadone addiction “whether primary or sustained ... to the Bureau with as complete a history of the of the circumstances as possible.” The FBN also flatly denied Eli Lilly’s request “to give free of charge to those [physicians] who request it, a tube of ten of the 5-milligram size tablets and a two-ounce bottle of the cough syrup, containing 10 milligrams ‘Dolophine’ in each 30 cc.” Orally administered or not, there would be no free samples.⁵⁶

Worries about methadone abuse and diversion were not confined to the 1940s. They cropped up again in the early 1970s. Public health officials in New York and other cities, with the support of the Nixon administration, were then rapidly expanding methadone maintenance programs. Though methadone maintenance did improve the health and behavior of individual addicts, it also entailed a risk—most acute in poorly managed private programs—of diversion and overdose. National and West Virginia media carried reports of deaths tied to methadone diversion. The FDA and the BNDD responded with new dispensing and take-home rules, clinic inspections, and demands for tighter security. In 1974 this diffuse regulatory reaction was

⁵⁶ “Drug Amidone an Opiate” (TS, 1947), subsequently printed and dated in *Statutes at Large*, vol. 61, part 2 (Washington, D.C.: Government Printing Office, 1948), 1075; “General Circular No. 181” (TS, 1947); and I.H. Small to Will S. Wood, September 9, 1947, and Wood to Small, September 15, 1947, all Amidone file. Postwar concern about the oversupply of synthetic narcotics was international as well as domestic. In 1948 the United Nations Commission on Narcotic Drugs framed the Synthetic Narcotics Protocol, which ensured that synthetic opiates not covered by existing treaties would be regulated and reported on the same basis as plant-based opiates. The Protocol took effect in 1949, having quickly gained widespread support. William B. McAllister, *Drug Diplomacy in the Twentieth Century* (New York: Routledge, 1999), 164-165.

codified in the Narcotic Addict Treatment Act. The act amended the CSA which, as noted above, became a more restrictive and punitive law during the 1970s and 1980s.⁵⁷

Federal regulators monitored semi-synthetic, as well as synthetic, opiates. FBN Director Anslinger and his CDAN allies insisted on independent evaluation of all opiate safety, effectiveness, and addiction liability; strictly limited opiate imports and manufacturing to medical need; and used the power to curtail opium supplies to force narcotic manufacturers to toe the line on labeling, advertising, and marketing. Anslinger in particular confronted manufacturing executives, including those whose companies made and marketed Dilaudid, Pantopon, and Demerol.⁵⁸

⁵⁷ Courtwright, Joseph, and Des Jarlais, *Addicts Who Survived*, 319-356; Committee on Federal Regulation of Methadone Treatment, Division of Biobehavioral Sciences and Mental Disorders, Institute of Medicine, *Federal Regulation of Methadone Treatment*, ed. Richard A. Rettig and Adam Yarmolinsky (Washington, D.C.: National Academy Press, 1995), chaps. 4-5. National media, e.g., James M. Markham, "Methadone Found Rising as a Killer: Overdose Deaths Here and in Capital Up Sharply," *New York Times*, March 14, 1972, p. 48. West Virginia media, e.g., Andrew Tully III, "Drug Users Point Out Methadone Black Market," UPI wire story in *Mineral Daily News Tribune*, July 26, 1974, p. 8, http://wvnewspapers.advantage-preservation.com/viewer/?k=methadone%20abuse%20addict&i=f&d=01011837-12311980&m=between&ord=k1&fn=mineral_daily_news_tribune_usa_west_virginia_keyser_19740726_english_8&df=1&dt=5. In 1975 the paper also ran a UPI story on the withdrawal symptoms and potential handicaps of infants born to methadone-dependent mothers in Richmond, Virginia, "Babies of Addicts Suffer Withdrawal Pains," *Mineral Daily News Tribune*, December 2, 1975, p. 10, http://wvnewspapers.advantage-preservation.com/viewer/?k=methadone%20mothers&i=f&d=01011837-12311980&m=between&ord=k1&fn=mineral_daily_news_tribune_usa_west_virginia_keyser_19751202_english_10&df=1&dt=5#zoom=page-width.

⁵⁸ David Herzberg, "Big Pharma's Real Nemesis? Putting the FBN back into Pharmaceutical History," paper for the American Association of the History of Medicine annual meeting, Chicago, May 10, 2014.

Anslinger also kept a watchful eye on oxycodone. Derived from the opium alkaloid thebaine, oxycodone was the primary ingredient in Nucodan, a preparation of Endo Laboratories, then an independent company based in Manhattan. Like most manufacturers, Endo prepared informational materials for its products. In 1949 Anslinger objected to Endo's brochure for Nucodan and referred the matter to CDAN. Endo had likened Nucodan to codeine, a relatively mild opiate, and suggested that rabbit experiments demonstrated no addiction liability. Company representatives testified that oral administration and the presence of homatropine, an anticholinergic drug, "would be a strong deterrent to addiction."

CDAN's experts, Drs. Nathan Eddy, Lyndon Small, and Harris Isbell, dismantled every assertion. The rabbit experiments (which Eddy himself had conducted) were cited out of context. The tablets could be dissolved and boiled to remove the homatropine, which in any case offered little deterrent effect. Nucodan was far closer in addiction liability to morphine than codeine, and the brochure must warn physicians up front. Endo should have been aware of the risk. German medical literature, Eddy pointed out, contained several references to addiction to Eucodal, the German trade name for oxycodone. Eucodal, Anslinger added, was regarded by German and United Nations regulators as a morphine equivalent.⁵⁹

As it happened, William F. Burroughs, the mid-twentieth century's self-styled "Master Addict," conducted his own trials of Eucodal. In early 1957 Burroughs published a famous letter in the *British Journal of Addiction* that cataloged his drug self-experimentation. In the opiate

⁵⁹ "Committee on Drug Addiction and Narcotics Meetings: 5th Minutes: 5/11/49" (TS, 1949), pp. 76-78, Committees on Drug Addiction, Drug Addiction (Advisory), and Drug Addiction and Narcotics, 1928-1965, Archives of the National Academy of Sciences, Washington, D.C.

class he had used, in addition to Eucodal, opium, heroin, morphine, Dilaudid, Pantopon, Demerol, methadone, and other preparations of varying strengths. All had narcotic effects. All were habit-forming. “Nor does it make much difference how the drug is administered, smoked, sniffed, injected, taken orally, inserted in rectal suppositories, the end result will be the same: addiction.” Two years earlier, in a letter to Allen Ginsberg (also subsequently published), Burroughs was franker. He had been injecting Eucodal and had become hopelessly strung out. “Trust the Germans,” he wrote, “to concoct some really evil shit. It acts direct [sic] on nerve centers. This stuff is more like coke than morphine. A shot of Eukodol [sic] hits the head first with a rush of pleasure. Ten minutes later you want another shot. Between shots you are just killing time.” Oxycodone was anything but a relatively mild, codeine-like drug.⁶⁰

Anslinger and other Bureau of Narcotics officials investigated the activities of distributors they thought dangerous, as well as manufacturers. In New York State, they and federal prosecutors made cases against narcotic traffickers who created wholesale distribution fronts, complete with innocuous names and customized invoices, circulars, and envelopes. Their real business was selling narcotics throughout the country, at 100 percent profit, to anyone willing to pay.⁶¹

Legally registered distributors who disregarded warnings of diversion were likewise subject to federal prosecution. The best know case involved a Buffalo, N.Y., wholesale company

⁶⁰ William S. Burroughs, “Letter from a Master Addict to Dangerous Drugs,” *British Journal of Addiction* 53 (1957): 119-120, and Burroughs to Ginsberg, June 16, 1954, *Letters of William S. Burroughs*, ed. Harris, 215. Though the article publication date is January 1957, Burroughs composed the letter on August 3, 1956, hence two years.

⁶¹ “Agents Seize 7 Here in Big Narcotic Raid,” *New York Times*, February 8, 1927.

called Direct Sales, whose conviction for conspiracy to violate the Harrison Act was affirmed by the United States Supreme Court in 1943. As early as 1936 the Bureau of Narcotics had warned the company that “it was being used as a source of supply by convicted physicians,” and that legitimate doctors typically ordered no more than 200 to 400 quarter-grain (16 mg) morphine tablets annually. Direct Sales nevertheless continued to market bulk lots of the drug, targeting small-town physicians. One such physician, Dr. John V. Tate, of Calhoun Falls, S.C., bought 79,000 half-grain (32 mg) tablets between November 1937 and January 1940. He resold them to others who illegally distributed the drugs. “The salient facts,” summed up Justice Wiley Rutledge, who wrote for a unanimous Court, “are that Direct Sales sold morphine sulphate to Dr. Tate in such quantities, so frequently and over so long a period of time that it must have known he could not dispense the amounts received in lawful practice and was therefore distributing the drug illegally. Not only so, but it actively stimulated Tate’s purchases.”

“Actively stimulated” because Direct Sales aggressively promoted the bulk purchase of morphine tablets that Dr. Tate resold for up to four times what he paid for them. Though the business was transacted by mail, and the parties never met in person, the court ruled that the company had nonetheless conspired to violate federal law. Narcotic drugs, though legal, had an inherent capacity for harm and addiction. Selling morphine was like selling machine guns, something that could only be done under tight restrictions. But “mass advertising and bargain-counter discounts are not appropriate to commodities so surrounded with restrictions.” The primary effect of such tactics “is rather to create black markets for dope and to increase illegal demand and consumption.” Direct Sales was aware of these realities but benefitted from disregarding them: “Petitioner’s stake [in the conspiracy] was in making the profits it knew could come only from its encouragement of Tate’s illicit operations.” Direct Sales’ defense—that it

had fulfilled its duty to the law by making sure that all legally required forms were filled out, that it bore no responsibility for what the physician did or might do with the narcotics after they left its custody—was insufficient to counter the overwhelming circumstantial evidence of mutually beneficial conspiracy.⁶²

The same year the Supreme Court handed down its decision, 1943, the country was in the midst of a natural experiment that validated the importance of narcotic supply control. United

⁶² *Direct Sales Co. v United States*, 319 U.S. 703. The regulations for the Controlled Substances Act formalize and extend the logic of *Direct Sales*, in the sense that registrants are expected to do more than avoid engaging in their own tacit conspiracies. They are required to report suspicious transactions *generally*, thereby helping federal drug-control authorities, who lack the agents to monitor every controlled-substance transaction, maintain the integrity of the closed system.

Diversion of another regulated psychoactive substance, alcohol, figured in a second famous distributor case from the 1930s, that of McKesson & Robbins. Before and during national Prohibition (1920-1933) McKesson & Robbins had sold large quantities of alcoholic beverages and alcohol-based cosmetic products that could be made potable, along with medical drugs and appliances. After Repeal, in 1933, the wholesaler employed 700 drug salesmen and 400 wine-and-liquor salesmen; by 1936 its net liquor sales surpassed its net drug sales. This was unsurprising, given that Philip Musica, a fraudster and bootlegger who had reinvented himself as Dr. F. Donald Coster, had taken over McKesson & Robbins in 1926. In 1938, when Coster's identity and trail of falsified drug-sales records unraveled, Musica shot himself as a federal marshal rang the doorbell of his mansion. The next day Assistant United States Attorney General Brien McMahon called Musica probably "the biggest illicit liquor dealer in the country." (Beverage-alcohol distribution then remained illegal in large parts of the U.S.) Newspapers and newsweeklies reported that Musica supplemented his McKesson & Robbins fraud and bootlegging income by trafficking in narcotics and munitions, the latter being conveyed to belligerents in cases labeled "Milk of Magnesia." *Road to Market*, 49-50 (sales force, data); "Gone Since 1920," *New York Times*, December 16, 1938, pp. 1, 4, <https://timesmachine.nytimes.com/timesmachine/1938/12/16/issue.html>; "Lawyer Swears Musica Drew Arms Contract," *Washington Evening Star*, December 19, 1938, pp. A-1, A-5, https://chroniclingamerica.loc.gov/data/batches/dlc_1miro_ver02/data/sn83045462/00280602322/1938121901/0385.pdf (McMahon, Milk of Magnesia); "My God, Daddy!" *Time* (32 (December 26, 1938), <http://eds.a.ebscohost.com/dax.lib.unf.edu/eds/detail/detail?vid=3&sid=37bc3a12-b36d-4f6a-9bb9-0516d95db37d%40pdc-v-sessmgr01&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#db=edsgea&AN=edsgecl.247110369>; and Sheila D. Foster and Bruce A. Strauch, "Auditing Cases that Made a Difference: McKesson and Robbins," *Journal of Business Case Studies* 5 (July/August 2009): 1-16, <https://clutejournals.com/index.php/JBCS/article/view/4708/4797>.

States government purchases for anticipated military needs caused raw opium prices to triple, and the outbreak of World War II disrupted international shipping and smuggling routes.

Whatever the origin of their addiction, Dr. Michael Pescor told students who visited the Fort Worth Narcotic Hospital in 1940, the patients had one thing in common: They could not afford to buy narcotics because of the war. Mexican and Cuban narcotic traffickers tried to fill the supply void, but they could not meet the street demand, particularly in big cities. In 1980 I interviewed “Arthur,” an addicted man of Afro-Caribbean ancestry who had been born in Harlem in 1914. This is how he described the situation:

There were no drugs in New York during World War II, no drugs in Philadelphia, no drugs in Chicago—there were no drugs on the East Coast. *No drugs*. We traveled around in ‘wolf packs.’ Somebody would come and say, ‘There’s some drugs on Forty-second Street!’ We’d yell, ‘Taxi! Taxi! Taxi!’ Everybody would run down there; as soon as you’d get there it was out. Then another group would come and say, ‘There’s some drugs up on 131st Street and Madison Avenue. Somebody’s got something that came through.’ Everybody’d jump in cabs and run up there...

We boiled down paregoric, used pills. We used to take Nembutals, mix it up, and shoot it. That would knock you out. I used to take three; my old lady would take five, and she would fall out. I’d just lay her back and then, when we’d come to, we’d do it all over again. [Laughs.] They were very cheap, twenty for a dollar.

The quality of heroin was much worse after World War II than it was prior to World War II. There were spots, you know—some shipment would come through, word would get around. During the late forties I was able to get a little bit of heroin, but the quality was

so weak I had to augment with other things. I used Dilaudid during this period; I used anything I could get to maintain, to function normally every day.

I got the Dilaudid by making doctors. Old doctors, located in Manhattan and the Bronx. They'd write a scrip out for you; most of them knew what was happening. I had one particular doctor who I used to make, not for Dilaudid, but for barbiturates. You could only go once a month. I had a book, and I would list five names in it, one for each day of the week. I would go and put this book in front of him and he would write a prescription: 'Mary Jones, thirty Tuinals, take one a night at bedtime; John Brown, thirty' He'd give me five different prescriptions, see. And I'd give him twenty-five dollars. That's what he used to charge.

I used to get Dolophines from doctors, too. Same thing: at the time it was five dollars a prescription. Some of them would write, some of them would throw you out of the room. They'd yell, 'Get out! Get out! Get out! I don't want blah, blah, blah.' It's hell trying to make doctors. You go to about ten, and you're lucky to get two that will write.⁶³

⁶³ Courtwright, *Dark Paradise*, 147; "Eby Leads Psychology Club on Tour U.S. [sic] Narcotic Farm," *Campus Chat*, November 15, 1940, p. 4 (Pescor), <https://texashistory.unt.edu/ark:/67531/metapth313238/>; Courtwright, Joseph, and Des Jarlais, *Addicts Who Survived*, 107-108 (interview). (The addicts' names in the book are aliases.) In 1943 the going rate for illicit morphine prescriptions in Washington, D.C., was \$2 to \$5. The buyers were known or suspected addicts, or narcotic agents posing as same, in which case prosecutions ensued. Federal officials emphasized, however, that most medical professionals gave the FBN the "finest co-operation" in preventing such illegal prescribing. "Three Doctors Face Narcotics Quiz Thursday," *Washington Evening Star*, January 26, 1943, B-1, https://chroniclingamerica.loc.gov/data/batches/dlc_1xul_ver01/data/sn83045462/00280603338/1943012601/0556.pdf.

Three details of Arthur's story stand out. First, the number of active narcotic addicts was related to available supply. In late 1942, Lawrence Kolb, the leading medical authority on the subject, judged that the nation's narcotic addiction problem had been cut by nearly half by the war. Demand for addiction treatment had so diminished that the Fort Worth Narcotic Hospital had been largely given over to mental patients. The hospital soon became a refuge for those suffering from war neuroses: shell-shocked Marines; a sailor who survived the sinking of three ships in one week; even a delusional German POW. Asked what had happened to the addicts for whom the hospital had been built, Kolb said that they had mostly turned to whiskey, "which does not lead so quickly to the same fatal consequences."⁶⁴

Second, escalating cost and diminishing availability prompted addicts to find substitute drugs. Purdue Pharma's 1999 OxyContin marketing slogan—"the one to start with and the one to stay with"—ought to be turned around. The one users started with was not necessarily the one they stayed with. Early twentieth-century medical addicts, when denied morphine by their alarmed families, contrived to secure laudanum, whiskey, or other drugs to ward off withdrawal symptoms. Though upset and angry relatives often read these acts as signs of bad character or moral degeneration brought on by narcotic use, they were at bottom manifestations of what Dr. Pettey called the "impelling force [of] intense suffering."⁶⁵

⁶⁴ [Thomas R. Henry, "Of Stars, Men and Atoms: Notebook of Science Progress in Laboratory, Field and Study," *Washington Evening Star*, November 28, 1942, p. A-8, https://chroniclingamerica.loc.gov/data/batches/dlc_1xul_ver01/data/sn83045462/00280603296/1942112801/0238.pdf. War neurosis examples: J'Nell L. Pate, *Arsenal of Defense: Fort Worth's Military Legacy* (Denton, Texas: Texas State Historical Association, 2011), 113-116.

⁶⁵ Pettey, *Narcotic Drug Diseases*, 311-317.

Desperation to escape withdrawal prompted similar behavior among nonmedical addicts. Opium smokers switched to morphine or heroin when supplies of their preferred drug dried up. Journalists noted the trend (“Chinese dope addicts have adopted the needle along with other western habits”), as did epidemiologists who analyzed admissions to the Lexington Narcotic Hospital. Nonmedical addicts who were morphine injectors often had to shift, temporarily or permanently, to the adulterated heroin that criminal traffickers preferred to sell in the 1920s and 1930s. “Heroin is used chiefly when morphine is unavailable or when it sells cheaper than morphine,” explained Dr. Pescor, who had also studied usage patterns among addicts admitted to the Lexington Narcotic Hospital in 1936-1937. In the late 1960s and 1970s, addicts who wearied of heavily adulterated street heroin turned to methadone, sometimes after sampling the diverted street variety. “When I drank it I noticed, in a short time, that I evened off. I wasn’t high, but I wasn’t sick,” recalled “Red,” a saxophonist addicted to heroin. “My next aim then was to get on a program, although I continued buying heroin when I couldn’t find the street methadone.”⁶⁶

Circumstantial switching to avoid withdrawal was well known and widely reported by addiction researchers in the United States and abroad, where observers documented such trends as the substitution of heroin injection for opium smoking in Hong Kong. Those who

⁶⁶ Fred Schulte, “How America Got Hooked on a Deadly Drug,” Kaiser Health News, June 13, 2018, <https://khn.org/news/how-america-got-hooked-on-a-deadly-drug/> (OxyContin slogan); Fritz Simmons, “The Highbinders, the Girls, and the Pipes are Gone,” “This World” supplement to the *San Francisco Chronicle*, November 16, 1947, p. 3 (“needle”); John C. Ball and M. P. Lau, “The Chinese Opiate Addict in the United States,” in Ball and Chambers, eds., *Epidemiology of Opiate Addiction*, 240-248 (epidemiologists); Michael J. Pescor, “A Statistical Analysis of the Clinical Records of Hospitalized Drug Addicts,” *Public Health Reports*, supplement no. 143 (1938), 4; Courtwright, Joseph, and Des Jarlais, *Addicts Who Survived*, 327 (“Red”). The historical shift from opium to morphine is described further in Courtwright, *Dark Paradise*, chaps. 3-5.

manufactured, distributed, and sold prescription opioids knew that patients who became addicted to one type of opioid would be motivated to turn to cheaper or more readily accessible opioids if market conditions changed. This was what in fact happened in the 2000s and 2010s, when some prescription opioid users turned to inexpensive nonprescription alternatives, including heroin and, especially since 2013, fentanyl and fentanyl analogs.⁶⁷

The third noteworthy detail of Arthur's story is that, while "makeable" doctors have always been with us, their presence alone is not enough to trigger an epidemic. The older, marginal physicians whom Arthur approached would sometimes grudgingly (and cautiously) write prescriptions, but they limited the practice and wrote only for addicts looking for a fix. Epidemics are characterized by a rapid increase in the number of *new* cases during a relatively brief span of time; there were thus no epidemics of *prescription* opioid use before, during, or immediately after World War II. As noted in the introduction and Appendix B, the next opiate addiction epidemic involved smuggled heroin, whose supply returned at the end of the 1940s. This time the drug took its toll on a new generation of inner-city youth, disproportionately African American and Latino, in New York and other cities. Here again was the demonstration

⁶⁷ Harold Traver, "Opium to Heroin: Restrictive Legislation and the Rise of Heroin Consumption in Hong Kong," *Journal of Policy History* 4 (1992): 307-324; Theodore J. Cicero et al., "The Changing Face of Heroin Use in the United States: A Retrospective Analysis of the Past 50 Years," *JAMA Psychiatry* 7 (2014): 821-826; "Prescription Opioid Use is a Risk Factor for Heroin Use," National Institute on Drug Abuse, January 2018, <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-heroin-abuse/prescription-opioid-use-risk-factor-heroin-use>; Patil Armenian et al., "Fentanyl, Fentanyl Analogs, and Novel Synthetic Opioids: A Comprehensive Review," *Neuropharmacology* 134 Part A (2018): 121-132.

of a well-established truth: Increases in availability and exposure of opioid-naïve subjects were primary drivers of narcotic addiction epidemics.⁶⁸

Hence the logic of U.S. and international narcotic control in the mid-twentieth century. Produce enough narcotics for conservatively defined medical and scientific needs; otherwise do everything possible to limit supply. Anslinger went so far as to order property managers at the War Assets Administration to track down the buyers of military-surplus life-rafts to retrieve syrettes of morphine tartrate inadvertently left behind in the first aid kits. “In most cases they got back their morphine,” journalist Fred Othman reported in October 1946. “Anslinger and his agents helped.” Though popular history remembers him as a fierce opponent of illicit traffickers and legal maintenance, Anslinger was an across-the-board supply-sider, equally willing to confront bureaucrats and executives careless of the risks of narcotic oversupply.⁶⁹

I will conclude this mid-century survey by mentioning one other pertinent development, in the field of epidemiology. Using analytical statistics and growing computational power to sort through health data, researchers began to explore how exposure to various psychoactive substances affected both addiction rates and the amount of illness and premature death within a population. In 1973, for example, sociologist Philip Baridon published a study of narcotic addiction rates for thirty-three countries. He identified twelve independent variables, such as a country’s wealth, urbanization, racial homogeneity, and proximity to supply. He applied multiple-regression analysis, a technique for estimating relative causal weights, and he

⁶⁸ Courtwright, *Dark Paradise*, chap. 6

⁶⁹ Fred C. Othman, “Here’s the Dope on Dopes and Dope in the Life Rafts,” *Washington Daily News*, October 11, 1946, p. 41.

discovered that supply proximity explained far more variance (45 percent) than any of the other eleven factors. In one way this was simply a mathematical demonstration of historical common sense. A society like late-nineteenth-century China had suffered high rates of narcotic addiction because the country was both a major producer and importer (from nearby India) of opium. But the systematic work of Baridon and other statisticians strengthened and generalized the point. “The most fundamental fact about drug abuse is frequently overlooked in the welter of complicated psychosocial explanations,” Baridon wrote. “If the drug is not available, there will be no abuse of it.”⁷⁰

The same principle applied to another potent psychoactive substance, alcohol. In the 1950s and 1960s a French demographer, Sully Ledermann, showed that many diseases and social problems closely tracked national alcohol consumption. Tuberculosis, cancers of the digestive tract, psychiatric admissions, accidents, crimes, vandalism: Their rates rose when French alcohol consumption rose, and not just among the heaviest drinkers. The findings laid bare the contradictions of French alcohol policy, then geared to promoting consumption for the sake of alcohol producers, retailers, and tax collectors. Keep on that path, Ledermann said, and you will keep on promoting alcoholism and alcohol-related mortality. Though the French initially ignored the advice, Ledermann’s ideas caught on among Scandinavian, British, and North American alcohol researchers. By the mid-1970s they had made reduction in overall consumption a central goal of alcohol-control policy.⁷¹

⁷⁰ Philip Baridon, “A Comparative Analysis of Drug Addiction in 33 Countries,” *Drug Forum* 2 (1973): 335-355, quotation p. 342.

⁷¹ M. Craplet, “Policies and Politics in France: ‘From Apéritif to Digestif,’” *From Science to Action? 100 Years Later—Alcohol Policies Revisited*, ed. Richard Müller and Harald

One way to reduce consumption was to raise the legal drinking age. In 1984 the U.S. government did so by raising the minimum drinking age to twenty-one. The move was initially controversial, but the controversy faded when studies showed upwards of a thousand fewer traffic deaths a year. Some teenagers still drank, of course. But proportionately fewer of them did so, or crashed their cars, or blacked out, or suffered other adverse health consequences, notably higher rates of alcoholism, statistically associated with early and heavy drinking. The implication was clear. Supply restriction meant fewer dead and addicted kids.⁷²

One apparent exception to the less-is-better psychoactive substance rule was methadone maintenance. As mentioned above, clinical and statistical studies from the late 1960s on showed that heroin addicts enjoyed better health and committed fewer crimes when switched to a steady daily dose of methadone. The main reason was that methadone, a legal, orally administered, and comparatively long-acting opioid, had inherent advantages over black-market heroin, which was none of these things. However, these advantages accrued to patients who were *already* confirmed addicts, not to opioid-naïve subjects who were better off if never exposed to methadone or other narcotics on a long-term basis. The public health moral was clear. Allow carefully monitored “agonist” treatment with drugs like methadone (and, later, buprenorphine) in

Klingemann (New York: Kluwer, 2004), 127; Virginia Berridge, *Demons: Our Changing Attitudes to Alcohol, Tobacco, and Drugs* (Oxford: Oxford U. Press, 2013), 190-191; Alex Mold, “‘Everybody Likes a Drink. Nobody Likes a Drunk’: Alcohol, Health Education and the Public in 1970s Britain,” *Social History of Medicine* 30 (2017): 612–636.

⁷² William DeJong and Jason Blanchette, “Case Closed: Research Evidence on the Positive Public Health Impact of the Age 21 Minimum Legal Drinking Age in the United States,” *Journal of Studies on Alcohol and Drugs* supplement no. 17 (1984): 108-115.

the addict subpopulation, but minimize opioid supply and exposure in the general population, except in situations like surgery or terminal illness for which the drugs were indicated. The new dispensation of liberalized opioid prescribing, which would consign nonmalignant pain patients to the pharmacological equivalent of indefinite methadone maintenance even though they were not (yet) addicted to narcotics, thus ran contrary to the public health implications of mid-century addiction epidemiology.

III. Lessons Ignored: The Subversion of Narcotic Conservatism

A. The Academic Origins of Opioid Revisionism, 1980-1986

In 1996 Dr. Russell Portenoy defined the “traditional perspective” on prescription narcotics as ascribing “both transitory benefit and substantial cumulative risk to long-term opioid therapy.” According to this view, he wrote,

the inevitability of tolerance limits the possibility of sustained efficacy, and other pharmacological properties increase the likelihood of adverse outcomes, including persistent side-effects, impairment in physical and psychosocial functioning, and addiction. If accurate, these outcomes would indeed justify the withholding of opioid therapy for all but the most extreme cases of chronic malignant pain.

Though Dr. Portenoy himself questioned the accuracy of the traditional view (and later backtracked and questioned the wisdom of his own dissent), his words are a fair summary of the thinking behind narcotic conservatism and the precautionary teachings and policies that flowed

from it. This was how clinicians and regulators and most of the public thought about prescription narcotics and CNP in the 1980s, and indeed for most of the twentieth century.⁷³

This report shows why they came to think this way and reviews the accumulated historical evidence that the use of opioids to treat CNP entailed serious risks. As of the early 1980s, that evidence, available to any pharmaceutical researcher, executive, or lawyer with access to a library, included 1) thousands of documented cases of iatrogenic opiate addiction in hundreds of refereed articles in the international medical literature, arranged by subject heading in standard finding aids like *Index Medicus*; 2) anthologies that gathered medical opiate addiction cases and statistics; 3) reprint editions of classic studies that stressed the danger of medical opiate addiction; 4) scholarly and popular histories of America's first opiate addiction epidemic; 5) authoritative medical texts that reiterated the importance of narcotic conservatism; 6) proclamations, statutes, schedules, and regulations that defined synthetic and semi-synthetic opioids as potent narcotics of morphine-like effect subject to a closed system of narcotic control requiring registrants' surveillance and reporting of suspicious sales; 7) national newspaper and periodical coverage of opioid abuse and overdoses; and 8) epidemiological research that linked psychoactive substance exposure and use to higher rates of addiction, illness, and early death.⁷⁴

⁷³ Russell K. Portenoy, "Opioid Therapy for Chronic Malignant Pain: Clinicians' Perspective," *Journal of Law, Medicine, and Ethics* 24 (1996): 296 (quotation); Thomas Catan and Evan Perez, "A Pain-Drug Champion Has Second Thoughts," *Wall Street Journal*, December 17, 2012, <https://www.wsj.com/articles/SB10001424127887324478304578173342657044604> (backtracked). Investigative journalist Gerald Posner reports that Dr. Portenoy said, in a conversation with another physician, "I gave innumerable lectures in the late 1980s and '90s about addiction that weren't true." Gerald Posner, *Pharma: Greed, Lies, and the Poisoning of America* (New York: Avid Reader Press, 2020), quotation p. 368.

⁷⁴ Examples of case histories, medical texts, media coverage, laws, regulations, and epidemiological and scientific studies are given above. Representative of anthologies, reprint

The length of the list, and the breadth of the sources, raises the question of how individual and corporate opponents of narcotic conservatism managed, over the next two decades, to successfully challenge such substantial evidence of serious risk. The process by which narcotic conservatism was subverted was involved and protracted, though its origins are clear enough. It began in 1980-1986 with the efforts of a handful of medical academics who laid the foundations of opioid revisionism. It was on that foundation, however shaky, that opioid manufacturers and distributors built a sophisticated campaign to convince health care providers, patients, regulators, and legislators that long-term opioid analgesia was a safe and effective treatment for CNP.

*

The most influential of the opioid revisionists in the early 1980s was Dr. Kathleen Foley of Memorial-Sloan Kettering Cancer Center. Though some opioid revisionists professed indifference to the past, Dr. Kathleen Foley found another way to dismiss contrary historical data. She cited it selectively and inaccurately and then compared it to more recent studies that purportedly superseded older findings. Because Dr. Foley was an influential role model with a vision for transforming the pain-management field, and because she authored or co-authored the

editions, and histories then available are Kolb, *Drug Addiction; Yesterday's Addicts: American Society and Drug Abuse, 1865-1920*, ed. H. Wayne Morgan (Norman: University of Oklahoma Press, 1974); Charles E. Terry and Mildred Pellens, *The Opium Problem*, reprint ed. (Montclair, N.J.: Patterson Smith, 1970); David F. Musto, *The American Disease: Origins of Narcotic Control* (New Haven and New York: Yale and Oxford University Presses, three editions [1973, 1987, 1999]); and Edward M. Brecher and the Editors of *Consumer Reports, Licit and Illicit Drugs* (Boston: Little, Brown, 1972).

seminal articles in the campaign to liberalize opioid prescribing, her method of historical revisionism merits especially close consideration.⁷⁵

In June 1980 Dr. Foley presented a paper at a conference on strategies for pain management sponsored by the National Institute on Drug Abuse (NIDA). In 1981 NIDA published the paper, “Current Issues in the Management of Cancer Pain,” in the conference proceedings. Inadequate treatment of cancer pain was then a topic of growing concern, and the question of opioid therapy was central to it. Despite disagreements on such issues as the optimal route and timing of administration, or the inevitability of tolerance, reform-minded cancer specialists like Dr. Foley agreed that exaggerated fears of narcotic befuddlement and addiction, entertained by providers and patients alike, impeded more effective and humane end-of-life pain

⁷⁵ Mitchell Max Oral History Interview, conducted by Marcia Meldrum, March 1999, pp. 4-7, describes Dr. Foley’s mentoring style and vision. Dr. Max was one of Dr. Foley’s several protégés.

Indifference to the past: Asked in a 2015 deposition if he had “ever studied the history of addiction and how it has played out in the 19th and 20th centuries,” Purdue’s Dr. Richard Sackler replied, “I’m not a student of that literature.” His profession of ignorance was striking, given his leadership role at a company that manufactured and marketed drugs long associated with opioid addiction epidemics and his training in medicine, a profession that makes retrospective analysis of mistakes and failures a priority. What Dr. Sackler did profess was a notion that opioids were underprescribed because stigmatized. “I’m not a student of the issue,” he said again, “but I believe the stigma existed because of a popular understanding by both professionals and by laymen that morphine was an end-of-life drug, if it was to be used at all.” Asked if there were concerns about morphine dependence and addiction, Dr. Sackler admitted that “some people had those concerns” without referencing the body of historical and medical evidence from which the concerns derived. Richard Sackler deposition in *Commonwealth of Kentucky v. Purdue Pharma L.P., et al.*, August 28, 2015, PPLP004030499, also available on. p. 18 of <https://www.documentcloud.org/documents/5745056-Depo-022019.html>.

management. The pendulum of narcotic conservatism had swung too far to the right for cancer patients and their caregivers.⁷⁶

Dr. Foley was not alone in this view, which was shared by such prominent pain experts as Drs. John J. Bonica and Jerome H. Jaffe. Dr. Bonica, known for his advocacy of multimodality approaches to treating pain, thought cancer pain could be mismanaged in two ways. The less common failing was to “snow the patient under” by administering opiates too soon, a form of “false humanitarianism” that could aggravate the “the depressant effects of the disease and cause the patient to have narcotic-induced anorexia, nausea, and vomiting.” The more common failing, however, was the underuse of narcotics in cancer patients because the physician had underestimated the effective dose range, overestimated the duration of action, and/or exaggerated the dangers of addiction. These dangers of addiction, Dr. Bonica reiterated, were not a significant consideration in patients in the preterminal or terminal stages of recurrent or metastatic cancer. Dr. Jaffe, the first head of President Richard Nixon’s Special Action Office for Drug Abuse Prevention and advocate of methadone maintenance and other innovative treatment approaches to heroin addiction, likewise thought cancer pain undertreated. His belief was strengthened by his cancer-stricken father’s and father-in-law’s deaths—deaths Dr. Jaffe thought needlessly painful because the attending physicians’ approach had been too conservative. No patient in his

⁷⁶ Kathleen M. Foley, “Current Issues in the Management of Cancer Pain: Memorial Sloan-Kettering Cancer Center,” *New Approaches to Treatment of Chronic Pain: A Review of Multidisciplinary Pain Clinics and Pain Centers*, ed. Lorenz K. Y. Ng, NIDA Research Monograph 36 (Washington: D.C., Government Printing Office, 1981), 169-181, <https://archives.drugabuse.gov/sites/default/files/monograph36.pdf>. The cancer-pain debates and reform activism of the era are described in *Opioids and Pain Relief: A Historical Perspective*, ed. Marcia L. Meldrum (Seattle: IASP Press, 2003), espec. chaps. 8 and 14.

final days, Dr. Jaffe later wrote, “should ever wish for death because of his physician’s reluctance to use adequate amounts of effective opioids.”⁷⁷

These views were both humanitarian and plausible. Several studies in the 1970s had found end-stage cancer pain to be poorly managed. What set Dr. Foley apart from the emerging reform consensus, however, was her willingness to push the indications for opioid therapy beyond pain from advanced cancer. In the last pages of her paper she addressed the larger issue of treating CNP:

[I]t is this profound fear of addiction that plays a major role in physicians’ underuse of narcotic analgesics in medical illness. In fact, there is limited available published data to determine the degree of tolerance, physical dependence, substance abuse or addiction in patients receiving narcotic analgesics *for any type of chronic medical illness and pain*. Many of the published studies do not adhere to strict definitions for drug use and abuse, making any review of such data practically impossible. However, in an attempt to review the available data on the subject of chronic pain and addiction, information on narcotic drug use could be obtained from several sources. In 1925, Kolb described the personality types of 230 narcotic addicts and reported that 9% of these addicts were ‘persons of a normal nervous constitution to whom an opiate had been prescribed to the point of addiction to relieve the suffering of some prolonged physical condition.’ Pescor in 1939

⁷⁷ John J. Bonica, “Cancer Pain,” in Bonica, ed., *Pain: Research Publications: Association for Research in Nervous and Mental Disease*, vol. 58 (New York: Raven Press, 1980), 335-362, quotation p. 341; Jerome H. Jaffe, “Misinformation: Euphoria and Addiction,” *Advances in Pain Research and Therapy*, vol. 11: *Drug Treatment of Cancer Pain in a Drug-Oriented Society*, ed. C. Stratton Hill, Jr. and William S. Fields (New York: Raven Press, 1989), 163-174, quotation p. 165.

reported that 3.8% of patients admitted to the Drug Addiction Center at Lexington, Kentucky, had been addicted to morphine given for ‘legitimate’ reasons. Rayport (1954) used the term ‘medical addict’ and defined such a patient as ‘one who states that he first received narcotics from a physician to the point of addiction in the course of treatment of illness.’ He divided medical addicts into 3 subclasses based on the fate of their illness: Group 1 with self-limited illness, Group 2 with reversible illness, and Group 3 with irreversible illness. Studying a representative group of 1,020 male opiate addicts consecutively admitted to the Public Health Service Hospital in Lexington, Kentucky, he found the incidence of medical patients addicted to narcotics was 27% among whites and 1.2% among blacks. This high incidence figure is often quoted to support the anecdotal data that the use of narcotic analgesics in patients with chronic illness leads to narcotic addiction. However, these data present a very biased view of the subject. In a more recent prospective study (Porter & Jick, 1980) monitoring the incidence of narcotic addiction in 39,946 hospitalized medical patients, of 11,882 who received at least one narcotic preparation, there were only 4 cases of reasonably well-documented addiction in patients who had no history of addiction. Their data, taken from a survey on a general population, suggests that medical use of narcotics is rarely, if ever, associated with the development of addiction.⁷⁸

⁷⁸ Foley, “Current Issues,” 178-179, emphasis added. Dr. Foley’s 1,020 figure is incorrect. Because 182 patients left the hospital before Dr. Rayport had a chance to screen them, his actual sample size was 838. See Mark Rayport, “Experience in the Management of Patients Medically Addicted to Narcotics,” *Journal of the American Medical Association* 156 (1954): 686. The 1970s studies suggesting cancer-pain undertreatment are reviewed in Bonica, “Cancer Pain,” 338-339.

This account is selective and inaccurate, beginning with Dr. Foley's literature review:

- There were not three, but hundreds, of catalogued articles on medical addiction published in the 1870s through the 1930s.
- These articles included statistical as well as case-study accounts.
- Though their authors used different terminology (e.g., "morphinism"), they clearly referred to addictive disorders marked by dependence and withdrawal; tolerance as measured by escalating dose; loss of control over use; and a tendency to relapse. They did not describe vague conditions irrelevant to contemporary medical addiction.
- Uncited statistical studies ran contrary to Dr. Foley's conclusions. In 1918, for example, Dr. Scheffel reported that 92 percent of a series of 50 patients presenting themselves voluntarily for treatment had begun using narcotics through prescribed medication or self-medication for illness. Only 8 percent had begun of their own accord when in normal health.⁷⁹
- The studies Dr. Foley cited appeared in the mid-twentieth-century, when older medical addicts were being superseded by younger nonmedical addicts. The cumulative effects of narcotic conservatism, stricter drug control, and the passage of time had changed the makeup of the addict population, as illustrated in Appendix B. Dr. Kolb, the leading authority in the field, had himself remarked the change. He confirmed that addiction to medicinal opiates and opiate-laced patent medicines had

⁷⁹ Scheffel, "Etiology," 854.

expanded in the late nineteenth century, when these drugs “could be bought anywhere with no more restrictions than are placed on the purchase of candy today.”⁸⁰

- Dr. Kolb stated that 14 percent of his sample were medical cases, not 9 percent as reported by Dr. Foley. These cases were, Dr. Kolb wrote, “people of normal nervous constitution accidentally or necessarily addicted through medication in the course of illness.” Necessary medical addicts were those for whom narcotic prescribing was prompted by a serious chronic illness, as opposed to accidental medical addicts, who were not seriously ill but who had nonetheless been led to addiction by physician overprescribing or self-medication. The two types constituted, respectively, 9 and 5 percent, summing to 14 percent of the total sample.⁸¹
- The likely reason that Dr. Foley misstated Dr. Kolb’s findings was that she had not read his article. She had instead copied, almost word for word, Dr. Mark Rayport’s summation, viz., “Kolb in 1925 ... found 9% to be ‘persons of normal nervous constitution to whom an opiate had been prescribed to the point of addiction to relieve the suffering of some prolonged physical condition.’”⁸²
- Dr. Foley omitted Dr. Rayport’s conclusion that Drs. Kolb’s and Pescor’s earlier findings were underestimates. “The figures in these reports have often been taken to represent the incidence of narcotic addiction during medical treatment,” Dr. Rayport

⁸⁰ Lawrence Kolb, “Controlling Drug Addiction,” *Hygeia* 3 (1925): 201.

⁸¹ Lawrence Kolb, “Types and Characteristics of Drug Addicts,” *Mental Hygiene* 9 (1925): 301. Dr. Rayport’s 9 percent figure referred only to the “necessary” subtype, which was evidently how Dr. Foley, who copied Rayport without studying the original source, came up with the misleadingly low 9 percent figure in her own paper.

⁸² Rayport, “Experience,” 685.

- wrote. “Used in that manner, *these figures must be low*, since addiction to narcotics in the course of illness is certainly not limited to persons of normal personality structure.” Patients with personality disorders or a history of inebriety also became chronically ill. They were also, or more so, at risk of addiction if narcotics were prescribed. But medical exposure to narcotics for any reason carried addiction risk, a principle corroborated by Dr. Rayport’s observed racial differences. Mid-century whites had greater social and financial access to medical care and prescription drugs than African Americans, and physicians harbored racial stereotypes that disinclined them to prescribe narcotics to black patients.⁸³
- Dr. Foley omitted a similar qualification in Dr. Pescor’s 1939 study. His 3.8 percent figure referred, narrowly, to “normal individuals accidentally addicted.” It did not refer to all addicts who had first used or who had been given narcotics because of disease or trauma. In more detailed published research, not consulted by Dr. Foley, Dr. Pescor reported that the *majority* of his 1,036 cases, normal and abnormal personalities included, “gave a history of chronic illnesses, infectious diseases with sequelae, or serious injuries during adult years.”⁸⁴

⁸³ Ibid., 685, emphasis added. Racial considerations in who gets what pain-relieving drug are of long standing and have persisted to this day. See Martin S. Pernick, *A Calculus of Suffering: Pain, Professionalism, and Anesthesia in Nineteenth-Century America* (New York: Columbia University Press, 1985), especially chap. 7, and Austin Frakt and Toni Monkovic, “A ‘Rare Case Where Racial Biases’ Protected African-Americans” [sic], *New York Times*, November 25, 2019, updated online December 2, 2019, <https://www.nytimes.com/2019/11/25/upshot/opioid-epidemic-blacks.html>.

⁸⁴ M.J. Pescor, “The Kolb Classification of Drug Addicts,” *Public Health Reports*, supplement no. 155 (1939): 2 (“normal”), and Pescor, “Statistical Analysis,” 15 (majority). Two details require further comment. First, Dr. Pescor specified a high, not to say aspirational, standard for normality in accidentally addicted patients. He wrote that cases of this sort typically enjoyed normal childhood development and moderate discipline in economically comfortable, native-

- The risk inherent in exposure prompted Dr. Rayport's recommendation, unmentioned by Dr. Foley, of a multimodality, patient-centered approach to pain management that stressed nonnarcotic therapies and social interventions such as reducing stress or prolonging rest, a view then advocated by leaders in the pain-management field. "Morphine is not the answer to chronic pain," Rayport wrote. As tolerance developed, pain relief became inadequate. Morphine in CNP was "a short-lived type of kindness. Long-term kindness would begin when opiates are withheld or withdrawn in favor of other therapeutic measures."⁸⁵
- Dr. Foley's rejoinder to Dr. Rayport ("these data present a very biased view of the subject") did not specify the nature of his bias. Nor did it mention that the Lexington Narcotic Hospital's practice of admitting prisoner-addicts as well as voluntary patients would have biased the percentage of medical cases downward, not upward.

Recurrence to original sources shows Dr. Foley's account of the historical evidence to have been incomplete, inaccurate, and misleading. Worse, because of its toxic afterlife, was her

born, rural families with no ancestral taint of psychopathy; manifest steady work habits; reported a happy marital history with two or more children; showed acceptable social adjustment despite addiction; and had no criminal history, apart from running afoul of the Harrison Act. ("Classification," p. 2.) Second, Dr. Pescor could not always determine whether the illnesses and injuries had preceded or followed addiction. This is likely why, in "Statistical Analysis," he did not calculate an overall percentage of medical cases, as Kolb had done for his smaller sample in "Types and Characteristics." Dr. Pescor remained confident, however, that "venereal disease does play a part in the etiology of addiction," an unspecified number of patients having attributed their addiction to its painful sequelae ("Statistical Analysis," p. 15). However, on another occasion, Dr. Pescor did give an estimate of the percentage of Fort Worth Narcotic Hospital cases that were of medical origin. In 1940 he told visitors to the facility that 30 percent of the patients had begun using narcotics "to relieve suffering from pain." ("Eby Leads Psychology Club," p. 4.)

⁸⁵ Rayport, "Experience," 690-691.

use of Porter and Jick's work to erase previous findings about the risks of opioid prescribing for CNP. I refer here to the judgment of the author himself. Dr. Hershel Jick is a respected Boston physician and researcher. (Jane Porter, nominally the first author, was his graduate research assistant.) Their contribution, "Addiction Rare in Patients Treated with Narcotics," appeared in a leading journal. Yet it was neither a "study" nor was it applicable to CNP. It was a five-sentence letter, which was unlikely to have been formally refereed and which drew its findings from a database of hospitalized medical patients in an acute-care setting with no history of addiction who had received *any* narcotic preparation, including aspirin-combination drugs like Percodan, in some cases as infrequently as a single dose. "If you read it carefully," Jick later said, "it does *not* speak to the level of addiction in outpatients who take these drugs for chronic pain." Careful readers would likewise have found no mention of the diversion and secondary addiction risks inherent to prescribing opioids on an outpatient basis. In the event, Porter and Jick's letter offered no foundation for Dr. Foley's sweeping conclusion, "medical use of narcotics is rarely, if ever, associated with the development of addiction."⁸⁶

⁸⁶ Jane Porter and Hershel Jick, "Addiction Rare in Patients Treated with Narcotics," *New England Journal of Medicine* 302 (1980): 123. The inappropriate use of the Porter and Jick letter is described in Steven D. Passik, "Responding Rationally to Recent Reports of Abuse/Diversion of Oxycontin® [sic]," *Journal of Pain and Symptom Management* 21 (2001): 359-360, <https://reader.elsevier.com/reader/sd/pii/S0885392401002792?token=2F47B9BB852FF627538928489D9D20F521B35628176F46B17F291D25AE7245359FE79CE307DD626FB948FA8DCDBAD3EA>; Barry Meier, *Pain Killer: An Empire of Deceit and the Origins of America's Opioid Epidemic*, expanded ed. (New York: Random House, 2018), 32-33; Quinones, *Dreamland*, 15-16, 92, 107-110, 266 (Jick quotation p. 110, italics in original); Sarah Zhang, "The One Paragraph Letter From 1980 That Fueled the Opioid Crisis," *The Atlantic*, June 2, 2017, <https://www.theatlantic.com/health/archive/2017/06/nejm-letter-opioids/528840/>; and Pamela T.M. Leung et al., "A 1980 Letter on the Risk of Opioid Addiction," *New England Journal of Medicine* 376 (2017): 2194-2195, fig. 1, <https://www.nejm.org/doi/full/10.1056/NEJMc1700150>.

Dr. David Juurlink, who co-authored and led the research for the last-named study, has said that it is "difficult to overstate the role of this letter. It was the key bit of literature that helped the opiate manufacturers convince-front doctors that addiction is not a concern." Dr. Jick

Foley's errors and omissions would have mattered less had not she and a Sloan-Kettering fellow, Dr. Portenoy, republished her analysis in 1986, together with some additional case material. The new evidence, a retrospective study of 38 cases without any control groups, was thin. Drs. Portenoy and Foley had asked pain patients to recall past experiences with opioids, rather than describe real-time reactions going forward—a stronger form of analysis unbiased by recall effects.⁸⁷

The journal to which they submitted, *Pain*, rejected the article. What happened next is described in a 2003 oral history interview with Dr. Portenoy, conducted by Dr. Meldrum:

MELDRUM: You and Kathleen Foley did a study on opioids and nonmalignant pain, which I think is probably considered to be very important in the literature. I have a copy of it, I spend [sic] time reading it. It was a study of thirty-eight patients, and what I get out of there is that it was definitely saying it's not just cancer patients that can benefit from opioids. We've taken these thirty-eight patients and we've given them opioids, and

concluded. In June 2017 he accused the pharmaceutical companies that seized on his publication of "bizarre," "unhealthy," and unprecedented abuse of the letter to cloak prescription opioids in the mantle of non-addictiveness. If he had known in 1980 the disaster that their misappropriation would cause, he "would never have published it." Sari Horwitz et al., "Inside the Opioid Industry's Marketing Machine," *Washington Post*, December 16, 2019, <https://www.washingtonpost.com/graphics/2019/investigations/opioid-marketing/> (Juurlink) and "Doctor Who Wrote 1980 Letter on Painkillers Regrets that It Fed the Opioid Crisis," NPR transcript of Jick interview with David Greene, June 17, 2017, <https://www.npr.org/templates/transcript/transcript.php?storyId=533060031>.

⁸⁷ R.K. Portenoy and K.M. Foley, "Chronic Use of Opioid Analgesics in Non-malignant Pain: Report of 38 Cases," *Pain* 25 (1986): 171. For a discussion of the evidentiary weaknesses of the 1986 article, see Anna Lembke, *Drug Dealer, MD: How Doctors Were Duped, Patients Got Hooked, and Why It's So Hard to Stop* (Baltimore: Johns Hopkins University Press, 2016), 60-62.

only two of them developed an addiction problem, and those two had a past history. On the other hand, only twenty-four, which is about two-thirds roughly of the patients, did get relief. It seems to me that sort of lays out the problem in a lot of different ways. I wonder if you wanted to comment on that, and sort of where the study came from.

PORTENOY: It's one of those interesting phenomena where what should have been a little paper turned into an important paper. It was Kathy's idea to do. I was actually looking around for something to study, and Kathy said, 'Why don't you review our experience with nonmalignant pain?' Again, I think it was Kathy's tremendous insight into the sociology of medicine at that time. She had a sense that we had to be very smart about writing the discussion section. Really, what it was was a very simple survey of clinical observations. It wasn't a study, and it was retrospective, and it was weak, weak, weak data. Nowadays, we would, I think, call that level five data. It was the weakest data there is.

In fact, the paper was rejected. The first time we sent it to the *Journal of Pain* [sic], it was rejected by Pat Wall. I was a young—was I a fellow then? It was in 1986, so I think I was still a—yes, I guess I was a fellow. So to be rejected by Pat Wall was a devastating experience, and I immediately wanted to bury my head. Instead, Kathy read the reviews, and she said, 'They're not reasonable. Write back and tell them it's wrong, we're going to resubmit it.' (chuckles) I don't know if she remembers that.

I wrote a letter, and we both signed it and basically asked Dr. Wall if he would re-review the paper because the reviewers didn't get the point. The point was, basically, to show a phenomenology, to illustrate a phenomenology that experienced pain specialists like us

knew existed but was being doubted in the field, and also throughout medicine, and, in addition to that, was being gainsaid by other clinical observations to suggest that drugs always produce problems.

So there were a series of papers that were coming out of places like the Mayo Clinic published around those times that were observations of a different type of patient, suggesting that people who took opioids were doing poorly, and they were becoming addicted, they had side effects that didn't allow them to function, and they always needed escalating doses, and they did much, much better when the drugs were taken away. That was the key message of those papers. If you put a person into a pain management program and you eliminate the drugs—detoxification was part of the program—and if you did that, then these patients did better.

What Kathy Foley and I were trying to do with that paper is not to say that those observations were invalid, which got misunderstood initially, in those early years. It was never to say that those observations were invalid, but it *was* to say that here's another set of observations, that patients being treated by Ray Hood [sic; should be Houde] for more than a decade on opioid drugs, patients that I had begun to treat for more than a year, and patients that Kathy was treating for more than five years, who were taking these drugs in a responsible way, not needing to escalate the doses, maintaining good pain control, and functioning better, at least from what we could see, as a result of the therapy, and not developing aberrant behaviors that would be consistent with abuse or addiction.

That's what we wanted to do, and it should have been a little paper like a snapshot of a clinical experience and published and promptly forgotten. Of course, Richard Sternbach

wrote a scathing letter to the editor afterwards, which, as a young physician, as a young academic physician, I had never even *seen* a letter published that attacked authors the way that his did. Later on, we made amends with each other. We had never met at that point.

But he wrote a letter that basically said that these people from Sloan-Kettering didn't understand the nature of pain, that we thought pain was all biologic and we didn't understand it. There was a psychologic and behavioral component to pain, and that because we misunderstood and thought pain was always biologic, we thought that opioids would always work, and we were advocating that therapy.

I wrote a response to that, and from that point on, that generated a tremendous dialog in the field. I lectured very extensively on that topic, and I'm still very involved with it. My department now has a program on pain and chemical dependency. Now we're hosting international conferences on pain and chemical dependency, the sixth conference coming up next year. It all boils down to a series of observations that started back in the mid-eighties and [that] really have a message. And the message is that people are different one from another and that if you use drugs that have addiction potential, and you use drugs that have a side effect liability, you have to recognize that some people will do well and some people won't do well.

And you have to recognize—I think this was another point that we tried to make in the paper—that the potential for bad outcomes isn't inherent in the tablet or in the injection. It's not inherent in there. These drugs have certain characteristics, which, when

interacting with a certain kind of brain, can lead to bad outcomes; but it's not inherent in the pill such that everybody given that pill becomes an addict.⁸⁸

The last point, that some pain patients were able to use opioids for years without descending into self-destructive addiction, was correct. In fact, the welfare of such patients was the reason why some early twentieth-century physicians like Dr. Charles Terry had criticized the federal government's anti-maintenance policy. Clinical experience had taught him that many long-term medical addicts would be better served by officially monitored narcotic prescribing, rather than being cut off and forced into withdrawal. Yet Dr. Terry was adamant that liberal provision of opiates to patients *not yet addicted* had been a primary cause of the nation's first surge of narcotic addiction.⁸⁹

In dismissing contrary historical opinion and data—inaccurately reported and improperly contextualized in the 1986 article, as in the 1981 trial balloon—Drs. Portenoy and Foley cited the Porter and Jick letter and psychiatrist Lee Robins's study of Vietnam veterans who had used heroin overseas. In 1974 Dr. Robins and her colleagues reported that, for the most part, veterans who had used heroin in Vietnam had refrained from using it upon returning the United States,

⁸⁸ Oral History Interview with Russell K. Portenoy (recorded 2003, transcribed 2013), Ms. Col. No. 127.67, John C. Liebeskind History of Pain Collection, History and Special Collections for the Sciences, Library Special Collections, Louise M. Darling Biomedical Library, University of California at Los Angeles, pp. 17-19.

⁸⁹ Dr. Terry made his case in a 1928 study, *The Opium Problem*. In 1970 the same book was extensively excerpted in Drs. John C. Ball and Carl D. Chamber's *The Epidemiology of Opiate Addiction in the United States* and republished in its entirety in the Patterson-Smith reprint series. (Ball and Chambers, eds., *Epidemiology of Opiate Addiction*, chap. 3; Terry and Pellens, *Opium Problem*.) Neither of these standard historical surveys was cited by Dr. Foley in 1980 or 1981 or by Drs. Foley and Portenoy in 1986. For more on Dr. Terry's policy views, see Courtwright, *Dark Paradise*, 126-127.

and that their readdiction rates had been exceptionally low. Drs. Foley and Portenoy thought the finding “further contradict[ed] the inevitability of abuse behaviors in those chronically exposed to opioids.”⁹⁰

This is, however, not the only reading of Dr. Robins’s study. The relatively high rates of heroin use and addiction among US soldiers abroad and their low rates after returning could be explained, epidemiologist Wayne Hall observes, “by the extreme differences in the price, purity, availability, and social acceptability of heroin use between Vietnam and the United States.” The heroin in Vietnam was pure, cheap, and smokable, which overcame qualms about needle use. The heroin in the U.S. was heavily adulterated, expensive, and had to be injected to produce much of an effect. Moreover, returning veterans who steered clear of bad heroin did not necessarily steer clear of drugs. Among those who had begun using narcotics in Vietnam, 32 percent used amphetamines or barbiturates after they came home. “Three years after their return,” Dr. Hall added, “alcohol abuse was a major problem for more than a third of veterans, and especially among those who had used heroin in Vietnam.” As during World War II, shifts in opioid price, purity, and availability prompted behavioral shifts in drug consumption.⁹¹

Had Drs. Portenoy and Foley’s “phenomenological” snapshot and “smart” discussion of “weak, weak, weak data” been “promptly forgotten,” its revisionist implication—that opioid prescribing for CNP is much less dangerous than the profession had been led to believe—would

⁹⁰ Foley and Portenoy, “Chronic Use,” 183.

⁹¹ Lee N. Robins, Darlene H. Davis, and David N. Nurco, “How Permanent was Vietnam Drug Addiction,” *American Journal of Public Health Supplement* 64 (1974): 38-43, 32 percent statistic p. 40; Wayne Hall and Megan Weier, “Lee Robins’ Studies of Heroin Use among US Vietnam Veterans,” *Addiction* 112 (2016): 176-180, quotations p. 178.

have had small impact. But, as Dr. Portenoy observed, the publication did become important, a judgment shared by researchers and journalists who have identified the 1986 article as a breakthrough in the campaign, co-opted and subsidized by pharmaceutical firms, to revolutionize CNP opioid prescribing. Asked to explain the origins of the prescription opioid epidemic, a group of physicians interviewed by the National Commission on Compensation Insurance identified “significant marketing efforts to promote opioids and what may be characterized by some as controversial scientific research [that] began a cultural shift for many physicians, starting with a study in the mid-1980s that addressed the use of opioids for pain relief.” That study was Drs. Portenoy and Foley’s seminal 1986 article. The two physicians, journalist Chris McGreal wrote,

had tapped into a frustration among a group of younger pain doctors at their inability to offer anything more than superficial relief to the march of patients whose lives were dominated and destroyed by debilitating pain. To many of those doctors, opioid treatments were a magic bullet kept beyond reach.

The *Pain* paper marked the start of a revolution that turned attitudes toward opioids on their head and brought about a fundamental shift in medical culture. Portenoy and Foley thought the long stigma against opioid treatment needed to be broken down. They had fired the opening shot with a paper that seemed to pull the rug from under the old arguments.⁹²

⁹² “On Opioids: The Doctors’ Perspective,” NCCI Insights, April 23, 2018, https://www.ncci.com/Articles/Pages/II_OnOpioids-Doctors.aspx; Chris McGreal, *American Overdose: The Opioid Tragedy in Three Acts* (New York: Public Affairs, 2018), 23. Dr. Portenoy subsequently cited the 1986 study as first among “several” reports of “series of cases in

More precisely, Drs. Portenoy and Foley had fired the opening shot on a new front in the war over the appropriate uses of narcotic drugs. In the late 1980s and 1990s the shot became a fusillade. “I gave so many lectures to primary care audiences in which the Porter and Jick article was just one piece of data that I would then cite,” Dr. Portenoy said in a 2011 interview, in which he reflected on his method and motives. “And I would cite 6, 7, maybe 10 different avenues of thought or avenues of evidence, none of which represented real evidence. And yet what I was trying to do was to create a narrative so that the primary care audience would look at this information in toto and feel more comfortable about opioids in a way they hadn’t before. In essence, this was education to de-stigmatize and, because the primary goal was to destigmatize, we often left evidence behind.”⁹³ Drs. Portenoy and Foley were not alone in creating this revisionist narrative. In 1986 Dr. John P. Morgan contributed “American Opiophobia: Customary Underutilization of Opioid Analgesics.” Dr. Morgan, a professor of pharmacology, was primarily concerned with the undertreatment of acute pain. Nonetheless, his skepticism of drug restrictions (he was a prominent drug-war critic); his interpretation of a small (n=60) 1979 survey of New York City physicians; the Porter and Jick letter; and a report by Drs. Foley and Ronald Kanner about the minimally inappropriate use of opioids among cancer patients led him

which opioid maintenance therapy was successfully managed for a long periods of time.” (Russell K. Portenoy, “Drug Treatment of Pain Syndromes,” *Seminars in Neurology* 7 [1987]: 147.) The evidentiary foundation of opioid revisionism thus resembled a nest of Russian dolls: Porter and Jick (1980) became nested in Foley (1981), which became nested in Portenoy and Foley (1986), which became nested in Portenoy (1987), and so on.

⁹³ Dr. Portenoy interview in *Long-Term Opioid Therapy Reconsidered: Addiction is NOT Rare in Pain Patients* (Physicians for Responsible Opioid Prescribing video, 2011), <https://www.youtube.com/watch?v=DgyuBWN9D4w>.

to conclude that narcotic conservatism was an irrational but professionally reinforced phobia about addiction.

The heart of the problem, Dr. Morgan wrote, was physicians' inability to distinguish between physical dependence, which formed readily, and addiction, which formed rarely. Only 15 percent of the survey respondents knew "that all humans treated with opioids even briefly (greater than 48 hr [sic]) will develop physical dependence, manifest by a mild and clinically unimportant flulike syndrome on [sic] abstinence. Since most of our respondents do not know this, they probably cannot distinguish between 'physical dependence' and 'addiction.'" The latter condition, addiction, "has only social determinants:"

It refers to a life in which drug use has become paramount. Addicted humans sacrifice to their drug and its use a large measure of what the larger culture holds dear; e.g., resources, savings, family respect, sexual activity, noncriminal status, joy of eating, health, and even life itself. This commitment and ability to give over life to a drug is rare and unusual, and even those characterized as addicts spend much of their time as nonaddicts; most who survive become nonaddicts again. Physical dependence is usually part of addiction to opioids, but it does little to explain opioid abuse; and physical dependence is not even necessary for addiction to nonopioids such as cocaine.

Physical dependence is something that happens to individuals who use or are given opioids appropriately. It is best compared with becoming wet by entering the water. However, entering the water and getting wet both precede, for example, swimming the English Channel. Few swimmers, although wet, proceed to that involvement. Few users of opioids, although physically dependent, proceed to addiction. It is a rare individual

who will proceed from drug use as an incidental event in life to drug use as the cardinal event in life.⁹⁴

That opioid withdrawal was clinically insignificant, and that medical addicts were as innumerable as English Channel swimmers, would have come as news to late-nineteenth-century physicians who bore witness to the first great epidemic. That addiction was a bizarre abnormality, rather than a common if individually variable consequence of exposure, would not have occurred to mid-century regulators. (Certainly not to Anslinger, who observed that far more drug-exposed physicians and nurses became addicts than lawyers, yet nobody thought lawyers collectively more virtuous or stable than medical personnel.) That addiction was purely a social construct would have been disputed by NIDA-funded neuroscientists who, in the late 1970s and early 1980s, delineated brain-reward pathways distinct from the anatomical pathways responsible for withdrawal symptoms. These reward pathways became pathologically disordered through long-term exposure to drugs; consequently, the criteria for diagnosing addiction shifted from physical dependence and toward compulsion, craving, and anhedonia triggered by long-

⁹⁴ Dr. Morgan's article, "American Opiophobia," first appeared in *Advances in Alcohol and Substance Abuse* 5, nos. 1-2 (Fall 1985-1986) and in a book version of the same journal, *Controversies in Alcoholism and Substance Abuse*, ed. Barry Stimmel (New York: Haworth Press, 1986), 163-173. In 1989 it was reprinted in *Advances in Pain Research and Therapy*, ed. C. Stratton Hill, Jr. and William S. Fields, 181-189; the quotations are from pp. 187-188. The Hill and Fields anthology contained the proceedings of a seminal 1988 revisionist conference to which Dr. Morgan was invited, and which was conceived and financed by Drs. Richard Sackler and Paul Goldenheim of Purdue Frederick (p. ix). Dr. Morgan's background is described in "In Memoriam: Dr. John P. Morgan," StoptheDrugWar.org, February 21, 2008, https://stopthedrugwar.org/chronicle/2008/feb/21/memoriam_dr_john_p_morgan.

term brain changes. That was why, as Dr. Morgan correctly observed, cocaine could addict without producing physical withdrawal symptoms like those produced by opioids.⁹⁵

Morgan's other, central claims about the safety of long-term opioid use were as much at odds with historical and medical evidence as those of Foley and Portenoy. Despite, or because, of these weaknesses "American Opiophobia" also became a key conceptual work. It gave opioid revisionism, and the industry that co-opted it, a plausible set of axioms and a useful catchphrase. The axioms were that Americans suffered from a preventable epidemic of undertreated and debilitating pain. That the most effective treatment for their pain, including chronic, noncancer pain, was opioid analgesia. That opioid analgesia had been too long relegated to the margins of medicine by irrational fears and the heavy hand of regulation, which intimidated legitimate prescribers and threatened adequate supply. That overcoming these fears and loosening these regulations would unleash the power of opioids to greatly improve pain patients' functioning with minimal risk of addiction or other serious side effects. That prescription opioids were life-restoring medicines for all but a few aberrant individuals prone to abuse and addiction. That the impulse to prevent addiction in susceptible individuals was an irrational but institutionalized opiophobia, which became the preferred term for rebranding narcotic conservatism as a counter-progressive and therapeutically malign force.

In the ensuing two decades, opioid manufacturers and distributors adopted and disseminated the analysis and vocabulary of the early revisionists—and not just those of Drs.

⁹⁵ David T. Courtwright, *Forces of Habit: Drugs and the Making of the Modern World* (Cambridge, Mass.: Harvard University Press, 2001), 95 (Anslinger); Teresa Pollin and Jack Durell, "Bill Pollin Era at NIDA (1979-1985)," *Drug and Alcohol Dependence* 107 (2010): 89-90 (reward pathways).

Foley, Portenoy, and Morgan. In 2007, for example, Purdue and AmerisourceBergen included a Purdue-funded talk in one of AmerisourceBergen's pharmaceutical continuing education programs. The presentation, given by Purdue's Dr. Kristi Dover at AmerisourceBergen's 2007 National Healthcare Conference and Exposition, was called "Incorporating Pain Care into Medication Therapy Management"—MTM for short. MTM was about helping pharmacists to help patients improve their therapeutic outcomes. The patient would meet at least once a year with the pharmacist "to address ongoing medication monitoring issues and event-based medication therapy problems." Whether and how often the meetings occurred, Dr. Dover noted, would depend on the complexity of the problems, the extent of patient's insurance coverage, or both.⁹⁶

Should the patient's medication issues involve opioids, Dr. Dover wanted the pharmacist-advisers to be clear on certain points. Opioids had no standardized correct dose. Titration to response was "the only consistently useful way to determine the optimal dose," as per American Pain Society guidelines. Physical dependence "DOES NOT = ADDICTION," as per a 1997 "consensus statement" issued by the American Pain Society and the American Academy of Pain Medicine. Building on and extending the tenets of 1980s revisionism, the consensus statement had stated that "de novo development of addiction when opioids are used for the relief of pain is low;" that side effects were either easily treated or "usually dissipate with continued use;" that "tolerance has not proven to be a prevalent limitation to long term [sic] opioid use;" that "tolerance is usually progression of disease;" and that "for most opioids, there does not appear to

⁹⁶ Carol Devlin to Lisa Miller, email of January 29, 2009, PPLPC004000098803 (invitation). All quotations from Dr. Dover are from her slides and notes in "Incorporating Pain Care into Medication Therapy Management," PPLPC031000352606.

be an arbitrary upper dosage limit, as was previously thought.” These claims were shaped by the committee’s lone consultant, Dr. Portenoy; its lead author, Dr. J. David Haddox, another prominent revisionist; and several other figures with close ties to the opioid industry.⁹⁷

Dr. Dover also told pharmacists to be wary of pseudoaddiction, which looked like drug-seeking behavior but was really inadequate pain relief:

Many medical students are taught that if opioids are prescribed in high doses or for a prolonged time, the patient will become an addict. Therefore, the common wisdom is to prescribe the lowest possible dose at the longest possible dosing interval. As a result, opioids are frequently prescribed in doses that are inadequate and at time intervals beyond the duration of action of the drug, resulting in poor analgesia.

The term pseudoaddiction, Dr. Dover explained, had been introduced back in 1989 by Drs. David E. Weissman and J. David Haddox to describe “the iatrogenic syndrome of abnormal behavior developing in direct consequence of inadequate pain management.” Opioid iatrogenesis, formerly understood as a byproduct of overprescribing, was really a consequence of underprescribing. The harm manifest itself as “escalation of analgesic demands by the patient associated with behavioral changes to convince others of the pain’s severity” and “a crisis of mistrust between the patient and the health care team.” However, trust could be re-established

⁹⁷ Dover, “Incorporating,” and David Haddox et al., “The Use of Opioids for the Treatment of Chronic Pain: A Consensus Statement from the American Academy of Pain Medicine and the American Pain Society,” *Clinical Journal of Pain* 13 (March 1997): 6-8.

between the patient and the team by “providing appropriate and timely analgesics to control the patient’s level of pain,” that is, more opioids.⁹⁸

What Dr. Dover did not say at AmerisourceBergen’s educational conference was that the funding for the American Pain Society and the American Academy of Pain Medicine, whose guidelines she used, came mainly from opioid manufacturers. Or that Drs. Weissman and Haddox were paid Purdue speakers. Or that Dr. Haddox became a high-level Purdue executive in 1999. Or that Dr. Weissman and Haddox’s speculative article was based on a single case, that of a seventeen-year-old boy with leukemia.⁹⁹

B. Opioid Revisionism as Marketing Opportunity

Sound medicine is data-driven, not narrative- or slogan-based. That was why critics like Dr. Nathaniel Katz subsequently accused Dr. Portenoy and other “so-called thought leaders” of creating and perpetuating “myths” by misinterpreting studies like Porter and Jick’s. Though the criticism is valid, it is insufficient to answer a key question: How did an empirically shoddy campaign to destigmatize opioids for long-term CNP therapy prove successful in an era when

⁹⁸ Dover, “Incorporating,” slides 37 and notes, 40 and notes, and 41 and notes, capitalization thus.

⁹⁹ “Top Speakers 1999,” PPLPC025000004774 (Weissman). Haddox, who also served as an American Pain Society president, was a “very good speaker” whom Purdue targeted for “important venues.” October 1999 email chain, PPLPC010000005050-PPLPC0100000005051. His Linked-in page lists Dr. Haddox as a Purdue vice president from September 1999 to October 2018, <https://www.linkedin.com/in/j-david-haddox-dds-md-24524179>. Single case: D.E. Weissman and J.D. Haddox, “Opioid Pseudoaddiction—an Iatrogenic Syndrome,” *Pain* 36 (March 1989): 363-366. McGreal, *American Overdose*, part I and chap. 12, provides an overview of how opioid manufacturers funded pro-opioid opinion leaders and professional and advocacy groups.

politicians, health officials, and even street artists were *restigmatizing* licit and illicit drug use? The 1980s were the decade of Be Smart, Don't Start; Just Say No; and Crack is Wack. Like any *Zeitgeist*, this one had countercurrents. Methadone programs had broken, however imperfectly, the maintenance taboo; appeals for better end-of-life care drew political and media interest; and doctors desired more, and more effective, options for CNP patients. Schedule II opioids were nonetheless remained heavily regulated and highly suspect in professional and lay circles.¹⁰⁰

The question of how opioid revisionism blossomed into a full-fledged marketing campaign and prescription-opioid addiction crisis has produced a substantial body of literature, one that it is consistent in its principal findings. From *New York Times* reporter Barry Meier's pioneering *Pain Killer: An Empire of Deceit and the Origin of America's Opioid Epidemic* (2003) to investigative journalist Gerald Posner's *Pharma: Greed, Lies, and the Poisoning of America* (2020), every independent, in-depth investigation has found that opioid manufacturers encouraged and subsidized revisionist opinion leaders and pain organizations as part of an orchestrated marketing campaign to downplay the risks and overstate the benefits of long-term opioid use in cases of CNP.¹⁰¹

¹⁰⁰ Dr. Katz interview in *ibid.*

¹⁰¹ Examples of journalistic, government, medical, and academic investigations of manufacturers' opioid promotions and misrepresentations include Barry Meier, *Pain Killer: An Empire of Deceit and the Origin of America's Opioid Epidemic* (New York: Random House, 2003, 2018 expanded ed.); General Accounting Office, *Prescription Drugs: OxyContin Abuse and Diversion and Efforts to Address the Problem* (Washington, D.C.: GAO, 2003) Art Van Zee, "The Promotion and Marketing of OxyContin: Commercial Triumph, Public Health Tragedy, *American Journal of Public Health* 99 (2009): 221-227; Quinones, *Dreamland*; John Temple, *American Pain* (Guilford, Ct.: LP Books, 2015); Anna Lembke, *Drug Dealer, MD: How Doctors Were Duped, Patients Got Hooked, and Why It's So Hard to Stop* (Baltimore: Johns Hopkins University Press, 2016); Patrick Radden Keefe, "Empire of Pain," *New Yorker* 93 (October 30, 2017), 34-49; Beth Macy, *Dopesick: Dealers, Doctors, and the Drug Company that Addicted America* (New York:

Journalistic and government investigators have likewise accused opioid distributors of undermining traditional safeguards against oversupply, diversion, abuse, and addiction. Their investigative work has focused primarily on the distributors' role in failing to investigate, suspend, and report suspicious orders, as required by CSA regulations, and then, during 2008 to 2016, on lobbying by individual distributors and by the Big-Three-dominated Healthcare Distribution Management Association (HDMA) to rein in enforcement actions against these violations. The best-known account of the impact of distributors' conduct in West Virginia is Eric Eyre's *Death in Mud Lick: A Coal Country Fight against the Drug Companies that Delivered the Opioid Epidemic* (2020), based on a series of Pulitzer-Prize-winning articles for the *Charleston Gazette-Mail*.¹⁰²

Little, Brown, 2018); McGreal, *American Overdose*; Sergio Sismondo, *Ghost-Managed Medicine: Big Pharma's Invisible Hands* (Manchester: Manchester Press, 2018), pp. 30-39, <https://www.matteringpress.org/books/ghost-managed-medicine>; and Posner, *Pharma*.

¹⁰² Eric Eyre, *Death in Mud Lick: A Coal Country Fight Against the Drug Companies* (New York: Scribner, 2020). Other book-length investigations of distributors' conduct include Temple, *American Pain*, and McGreal, *American Overdose*. Representative newspaper accounts include Danny Hakim, William K. Rashbaum, and Roni Caryn Rabin, "The Giants at the Heart of the Opioid Crisis," *New York Times*, April 22, 2019, <https://www.nytimes.com/2019/04/22/health/opioids-lawsuits-distributors.html>, and Scott Higham, Sari Horwitz, and Steven Rich, "76 Billion Opioid Pills: Newly Released Federal Data Unmasks the Epidemic," *Washington Post*, July 16, 2019, https://www.washingtonpost.com/investigations/76-billion-opioid-pills-newly-released-federal-data-unmasks-the-epidemic/2019/07/16/5f29fd62-a73e-11e9-86dd-d7f0e60391e9_story.html. Representative government investigations include U.S. Senate Homeland Security and Governmental Affairs Committee, Ranking Minority Member's Office, *Fueling an Epidemic*, report 3, <https://www.hsgac.senate.gov/imo/media/doc/REPORT-Fueling%20an%20Epidemic-A%20Flood%20of%201.6%20Billion%20Doses%20of%20Opioids%20into%20Missouri%20and%20the%20Need%20for%20Stronger%20DEA%20Enforcement.pdf> and U.S. House of Representatives, Subcommittee on Oversight and Investigations, "Combating the Opioid Epidemic: Examining Concerns about Distribution and Diversion, Tuesday, May 8, 2018" (preliminary TS transcription, 2018),

I conclude with two observations about the defendants' means and motive for seizing the opportunity presented by academic revisionism. First, the manufacturers were not solely responsible for misleading marketing. Indeed, by the 1980s they were not solely responsible for drug marketing, period. The history of the wholesale drug business in the United States is one of small distributors consolidating into large firms that outgrew their original factory-to-pharmacy transport role. By the late nineteenth century they had become vertically integrated operations involved in marketing as well as supply—"service wholesalers" in industry parlance.

These services multiplied during the twentieth century. By 1930 McKesson & Robbins had launched a "propaganda" campaign on behalf of independent druggists; appointed an executive to advance "hard-headed merchandising ideas" to bolster their net profits; and launched a Sunday afternoon radio program aimed at pharmacists that featured customers' letters, a sort of *Car Talk* for druggists. By 1959 McKesson provided druggists with store-design assistance, monthly advertising, sales management counseling and special promotions, and the "Rex" McKay pharmaceutical information and service center. Van-equipped representatives provided quick deliveries of drugs and quick updates on new products, so that pharmacists could advise both customers and doctors. McKesson saw druggists as "pharmaceutical consultant[s] to the health team" who were well situated to disseminate information about novel prescription

drugs, which the American pharmaceutical industry was then introducing in variety and abundance.¹⁰³

It was in keeping with this historical pattern, then, that McKesson and other large, service-oriented distributors became involved in promoting OxyContin when Purdue Pharma launched the prescription opioid in early 1996. By May of that year Purdue had initiated or planned nineteen “OxyContin Wholesaler Special Programs.” Three distributors, Bergen Brunswig Corporation (which in 2001 merged with AmeriSource Health to become AmerisourceBergen Corporation), Cardinal Health, and McKesson were slated to receive over 82 percent of Purdue’s initial expenditure of \$132,661. The money went for such distributor-managed promotional schemes as rebates, telemarketing, and screen-saver advertising.¹⁰⁴

In June 1996 Purdue submitted an application for OxyContin to receive a DIANA (*Distribution Industry Award for Notable Achievements in Healthcare*), an Oscar-like honor conferred annually by the National Wholesale Druggists’ Association (NWDA) for “innovative new product introductions and promotions.” In the accompanying letter, Guerdon R. Green, executive director of Purdue’s National Accounts and Trade Division, expressed his gratitude for

¹⁰³ “A phrase you don’t see any more—‘The Independent Druggist is Doomed!’” advertising offprint (N.c.: McKesson & Robbins, 1930), 177 (“propaganda”), 181 (“hard-headed”), 182 (radio); “You are served 14 ways better ... by McKesson,” brochure (N.c.: McKesson, 1959), n. p., both Kremers Reference Files, F.B. Power Pharmaceutical Library, Madison, Wisconsin.

¹⁰⁴ OxyContin Wholesaler Special Promotions, PKY181732374.

the wholesalers' help during the OxyContin launch, thanking them for "the assistance the active NWDA members gave us in the marketing of this product."¹⁰⁵

A year later, in May 1997, Green gave a blunter appraisal of the value of wholesaler marketing programs in a memo to James Lang, Purdue's vice president for sales and marketing:

Obstacles to our growth lie predominately with our reluctance to spend money on wholesaler programs. While many of the programs are difficult to tie to actual sales growth, they build a tremendous amount of goodwill with the wholesaler. Our participation in a variety of wholesaler programs with the launch of OXYCONTIN insured that every wholesaler distribution center would stock OXYCONTIN. Without programs designed by the wholesaler to move product at the retail level, the wholesaler is reluctant to stock their warehouse.

Green judged McKesson, Bergen Brunswig, Cardinal, and AmeriSource particularly important to cultivate, as they controlled over 80 percent of the drug wholesaler market. And these "wholesaler trading partners are moving away from simply performing a distribution function. More and more they are becoming information vendors. They have captured information in terms of compliance, substitution, and patient demographics, [sic] that they want to sell to us."¹⁰⁶

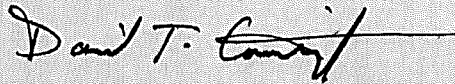
¹⁰⁵ Guerdon R. Green to John Hammond, June 17, 1996, PDD1701421278. The DIANA Award, which has been conferred since 1959, is described at the Health Distribution Alliance's website, <https://www.hda.org/about/industry-recognition/diana>.

¹⁰⁶ G.R. Green to J. Lang, May 21, 1997, quotations PKY180256914 and PKY180256915.

Green's analysis was accurate as history and prophecy, insofar as large distributors continued to sell information and marketing services to the opioid manufacturers over the next two decades. As to the manufacturers' motives for acquiring these services, as well as developing their own revisionist opinion leaders, advocacy organizations, public relations, and marketing operations, the answer is straightforward. It was money. By the 1980s opioid manufacturers faced four realities. First, tens of millions of Americans suffered from some form of chronic pain for which no sure, convenient, and safe narcotic treatment was available. They were frustrated, and their caregivers were frustrated. As one focus-group study put it, physicians universally agreed that "they would like to have the efficacy of the narcotics without the concern regarding side effects or addiction." Second, despite a half century of trying, researchers had failed to find the holy grail of such a safe, non-addictive narcotic analgesic. No drug was to morphine what Novocain was to cocaine: a pain-deadener that did not also produce brain reward, tolerance, and potential addiction. Third, any company that successfully marketed a narcotic analgesic *as if it were this grail* could realize a substantial profit. Fourth, conventional medical opinion and federal regulators regarded any such attempt as, respectively, unethical or unlawful. Narcotic conservatism stood in the way of market expansion. Absent a genuine discovery of a non-addictive narcotic analgesic, profit maximization required that narcotic conservatism and the regulatory system that supported it be subverted. Opioid revisionism, strengthened and expanded in the late 1980s, 1990s, and early 2000s by opioid industry financial backing and promotional savvy, ultimately provided the means for doing so.¹⁰⁷

¹⁰⁷ R. Winston to [Mark] Alfonso, April 13, 1995, and attached focus-group study of March 8, 1995, p. 23, PDD9522502251, <https://www.scribd.com/document/440306799/Purdue-focus->

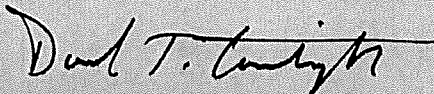
Respectfully submitted,

A handwritten signature in dark ink, appearing to read "David T. Courtwright", with a long horizontal flourish extending to the right.

David T. Courtwright, Ph.D.

Pursuant to 28 U.S.C. S 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 3, 2020

A handwritten signature in dark ink, appearing to read "David T. Courtwright", with a long horizontal flourish extending to the right.

David T. Courtwright, Ph.D.

APPENDIX A: DAVID T. COURTWRIGHT, CURRICULUM VITAE

POSITIONS AND TITLES

Presidential Professor, University of North Florida, 2005-2019; prof. of history since 1988.
Voted emeritus status, effective April 2019.

Associate Professor of History, University of Hartford, 1985-1988.

Assistant Professor of History, University of Hartford, 1979-1985.

Assistant Clinical Professor of Community Medicine, University of Connecticut Health Center, 1981-1988, concurrent with the University of Hartford appointment.

Faculty Associate in Epidemiology, University of Texas School of Public Health, 1978-1979.

EDUCATION

Ph.D. Rice University, History, 1979. Dissertation: "Opiate Addiction in America, 1800-1940."

B.A. University of Kansas, English, *summa cum laude* and Phi Beta Kappa, 1974.

SELECTED AWARDS AND HONORS

NEH: Public Scholar Grant, 2016-2017 (to write *The Age of Addiction*); Fellowship, 1998-1999 (to write *Forces of Habit*).

University of Richmond: Douglas Southall Freeman Professor of History, 2015.

UNF: John A. Delaney Presidential Professorship, 2005; Outstanding Scholarship Award, 2002, 2012; Teaching Awards, 1998, 1999, 2001, 2002, 2005; Distinguished Professor, 1998.

College on Problems of Drug Dependence: Media Award, 2002 (for *Forces of Habit*).

American Council of Learned Societies: Fellowship, 1993-1994 (to write *Violent Land*).

BOOKS BEARING ON THE HISTORY OF DRUG USE AND DRUG POLICY

The Age of Addiction: How Bad Habits Became Big Business (Belknap Press of Harvard University Press, 2019).

Addicts Who Survived: An Oral History of Narcotic Use before 1965, rev. ed. (Tennessee, 2012).

No Right Turn: Conservative Politics in a Liberal America (Harvard, 2010).

Forces of Habit: Drugs and the Making of the Modern World (Harvard, 2001).

Dark Paradise: A History of Opiate Addiction in America, exp. ed. (Harvard, 2001).

Violent Land: Single Men and Social Disorder from the Frontier to the Inner City (Harvard, 1996).

REFEREED ARTICLES AND CHAPTERS ON DRUGS, ALCOHOL, AND TOBACCO

“Preventing and Treating Narcotic Addiction—A Century of Federal Drug Control,” *New England Journal of Medicine* 373 (2015): 2095-2097.

“The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction,” *Ann. Rev. of Public Health* 36 (March 2015): 559-574; second author.

“Addiction and the Science of History,” *Addiction* 107 (2012): 486-492, reprinted with commentaries and my response in “Addiction, History, and Historians: A Symposium,” *Points*, <https://pointsadhsblog.wordpress.com/2012/03/02/addiction-and-historians-a-symposium/>.

“Modernity and Anti-Modernity: Drug Policy and Political Culture in the United States and Europe in the Nineteenth and Twentieth Centuries,” *Drugs and Culture: Knowledge, Consumption and Policy*, ed. Geoffrey Hunt et al. (Farnham: Ashgate, 2011), 213-224; principal author.

“The NIDA Brain Disease Paradigm: History, Resistance, and Spinoffs,” *BioSocieties* 5 (2010): 137-147.

“Mr. ATOD’s Wild Ride: What Do Alcohol, Tobacco, and Other Drugs Have in Common?”
Social History of Alcohol and Drugs 20 (2005): 105-140, with commentaries.

“‘Carry on Smoking’: Public Relations and Advertising Strategies of American and British Tobacco Companies since 1950,” *Business History* 47 (2005): 421-432.

“The Controlled Substances Act: How a Big Tent Reform Became a Punitive Drug Law,” *Drug and Alcohol Dependence* 76 (2004): 9-15.

“The Roads to H: The Emergence of the American Heroin Complex, 1898-1956,” *100 Years of Heroin*, ed. David F. Musto et al. (Westport, Conn.: Auburn House, 2002), 3-19.

“Morality, Religion, and Drug Use,” *Morality and Health*, ed. Allan M. Brandt and Paul Rozin (New York: Routledge, 1997), 231-250.

“The Prepared Mind: Marie Nyswander, Methadone Maintenance, and the Metabolic Theory of Addiction,” *Addiction* 92 (1997): 257-265.

“The Rise and Fall and Rise of Cocaine in the United States,” *Consuming Habits: Drugs in History and Anthropology*, ed. Jordan Goodman, Paul E. Lovejoy, and Andrew Sherratt (London: Routledge, 1995), 206-228, revised and republished in 2nd ed., 2007.

“The Hidden Epidemic: Opiate Addiction and Cocaine Use in the South, 1860-1920,” *Journal of Southern History* 49 (1983): 57-72.

“Opiate Addiction as a Consequence of the Civil War,” *Civil War History* 24 (1978): 101-111.
 Awarded the Mary Hayes Ewing Publication Prize in Southern History, 1979.

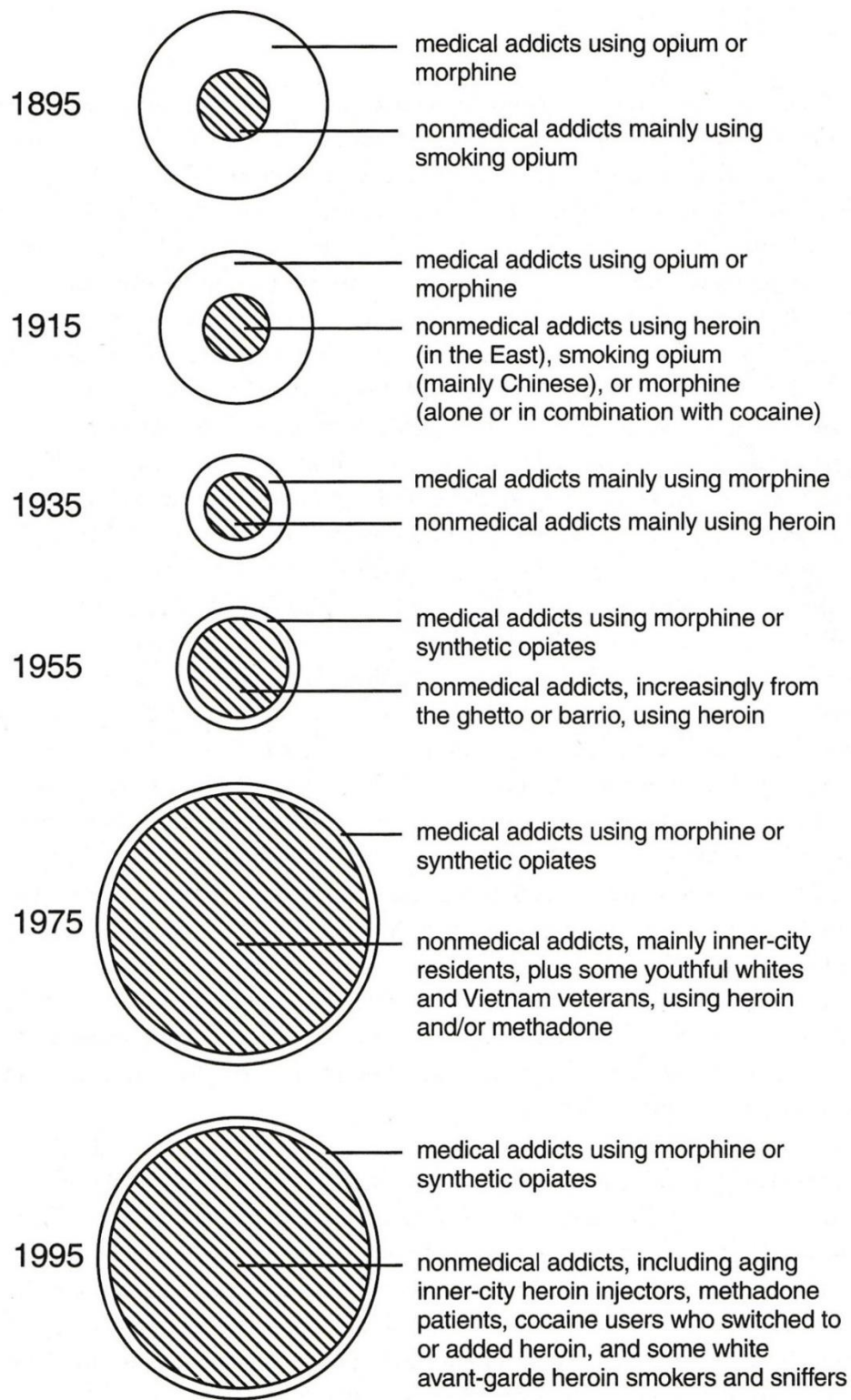
RELATED PROFESSIONAL ACTIVITIES

President, Alcohol and Drugs History Society, 2009-2011.

Editorial Boards: *Bull. History of Medicine*; *Pharmacy in History*; *Intl. J. of Drug Policy*

Member, Institute of Medicine Substance Abuse Coverage Committee, 1988-1990. The committee investigated the adequacy of drug abuse treatment in the U.S. and made recommendations to Congress in *Treating Drug Problems*, 2 vols. (Washington, D.C.: National Academy Press, 1990, 1992).

ADDRESS 3871 Arrow Point Trail W., Jacksonville, FL 32277, dcourtwr@yahoo.com

APPENDIX B: Prevalence and Characteristics of U.S. Opiate Addicts, 1895-1995

Appendix B, continued: Though contemporary prevalence estimates varied, reanalysis of available data indicates that there could not have been more than approximately 300,000 addicts in 1895, the peak of the first U.S. epidemic. By 1975 there were approximately 600,000 addicts, overwhelmingly nonmedical heroin users, up from around 100,000 in 1967. “In those days ... it wasn’t ‘the drug problem,’” commented Dr. Robert DuPont, the first director of the National Institute on Drug Abuse, “it was ‘the heroin problem.’”¹⁰⁸

The outstanding characteristic of the epidemic that commenced after 1995, apart from its unprecedented scale, was its reversion to the older pattern of most addicts becoming addicted through prescription drugs rather than illicit “street” drugs. By 2014, according to NIDA Director Dr. Nora Volkow, “an estimated 1.9 people in the United States suffered from substance use disorders related to prescription opioid pain medications and 586,000 suffered from a heroin use disorder.” If one were to add a circle for 2014 to Appendix B, it would resemble the medical/nonmedical pattern for 1895—save that, to capture expanded prevalence, it would be at least four times as large as the circle for 1975 or 1995.¹⁰⁹

¹⁰⁸ Appendix B is adapted from Courtwright, *Dark Paradise*, figure 13, p. 183. See *idem*, chaps. 1, 6, and 7, for the statistical basis of the demographic generalizations and prevalence estimates. The DuPont quotation is on p. 171. Around 100,000 in 1967: John C. Ball, David M. Englander, and Carl D. Chambers, “The Incidence and Prevalence to Opiate Addiction in the United States,” in John C. Ball and Carl D. Chambers, eds., *The Epidemiology of Opiate Addiction in the United States* (Springfield, Ill.: Charles C Thomas, 1970), 68-78. This study is also available online at <https://pdfs.semanticscholar.org/9fae/bc71c2f4e43ceb65b8aebd333b01a52b76f1.pdf>.

¹⁰⁹ “What Science Tells Us About Opioid Abuse and Addiction” (Dr. Volkow’s testimony before U.S. Senate Judiciary Committee, January 27, 2016), <https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/what-science-tells-us-about-opioid-abuse-and-addiction>.

APPENDIX C: Reliance Materials

“A phrase you don’t see any more—‘The Independent Druggist is Doomed!’” advertising offprint (N.c.: McKesson & Robbins, 1930).

“A Warning to Parents,” *La Grange Journal*, January 5, 1911, p. 1.

<https://texashistory.unt.edu/ark:/67531/metapth997059/>.

“Agents Seize 7 Here in Big Narcotic Raid,” *New York Times*, February 8, 1927.

“Babies of Addicts Suffer Withdrawal Pains,” *Mineral Daily News Tribune*, December 2, 1975, p. 10, http://wvnewspapers.advantage-preservation.com/viewer/?k=methadone%20mothers&i=f&d=01011837-12311980&m=between&ord=k1&fn=mineral_daily_news_tribune_usa_west_virginia_keyser_19751202_english_10&df=1&dt=5#zoom=page-width.

“Baltimore Notes” (TS, 1908), box 43, USIOC, with minor spelling corrections and paragraph breaks.

“Board Examinations: Washington,” *Pharmaceutical Era* (1914).

“Committee on Drug Addiction and Narcotics Meetings: 5th: Minutes: 5/11/49” (TS, 1949), pp. 76-78, Committees on Drug Addiction, Drug Addiction (Advisory), and Drug Addiction and Narcotics, 1928-1965, Archives of the National Academy of Sciences, Washington, D.C.

“Drug Amidone an Opiate” (TS, 1947), subsequently printed and dated in *Statutes at Large*, vol. 61, part 2 (Washington, D.C.: Government Printing Office, 1948)..

“Eby Leads Psychology Club on Tour U.S. [sic] Narcotic Farm,” *Campus Chat*, November 15, 1940, p. 4 (Pescor), <https://texashistory.unt.edu/ark:/67531/metapth313238/>;

“From the Collections: Drugs,” Special Collections, Drexel University College of Medicine, <http://archives.drexelmed.edu/blog/?p=18>.

“General Circular No. 181” (TS, 1947); and I.H. Small to Will S. Wood, September 9, 1947, and Wood to Small, September 15, 1947, all Amidone file.

“General News,” *Keyser Tribune*, January 14, 1916, p. 4 (eighty-four addicts, “few”)

http://wvnewspapers.advantage-preservation.com/viewer/?k=morphine&i=f&by=1916&bdd=1910&d=01011910-12311919&m=between&ord=k1&fn=keyser_tribune_usa_west_virginia_keyser_19160114_english_6&df=1&dt=10

“Guest Posts: “‘A Mind Prostrate’: Physicians, Opiates, and Insanity in the Civil War’s Aftermath,” Medical Heritage Library, November 21, 2018, <http://www.medicalheritage.org/2018/11/21/guest-posts-a-mind-prostrate-physicians-opiates-and-insanity-in-the-civil-wars-aftermath/>.

“Heroin Hydrochloride,” *JAMA* 47 (1906).

“Interview with Bob Angarola of Domestic Policy Staff, November 26, 1980 ... Interviewer: Emily Soapes” (TS, 1980), 12, Jimmy Carter Presidential Library,

https://www.jimmycarterlibrary.gov/assets/documents/oral_histories/exit_interviews/Angarola.pdf, with bracketed changes in punctuation to the transcript inserted for clarity.

“Joe Peak, Noted Secret Service Operative, Is Here,” *Wheeling Intelligencer*, October 25, 1919, p. 9, https://chroniclingamerica.loc.gov/data/batches/wvu_iconia_ver01/data/sn86092536/00271768436/1919102501/0582.pdf

“Laws Governing Narcotic Sales Enforced as Never Before,” *Pharmaceutical Era* 158 (1914).

“Lawyer Swears Musica Drew Arms Contract,” *Washington Evening Star*, December 19, 1938, pp. A-1, A-5,
https://chroniclingamerica.loc.gov/data/batches/dlc_1miro_ver02/data/sn83045462/00280602322/1938121901/0385.pdf (McMahon, Milk of Magnesia);

“Long Day’s Journey into Night, second edition,” Yale University Press,
<https://yalebooks.yale.edu/book/9780300093056/long-days-journey-night> (more than one million);

“My God, Daddy!” *Time* (32 (December 26, 1938),
<http://eds.a.ebscohost.com.dax.lib.unf.edu/eds/detail/detail?vid=3&sid=37bc3a12-b36d-4f6a-9bb9-0516d95db37d%40pdc-v-sessmgr01&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#db=edsgea&AN=edsgcl.247110369>;

“Narcotic Drug Addiction,” *Texas State Journal of Medicine* 30 (1934)

“On Opioids: The Doctors’ Perspective,” NCCI Insights, April 23, 2018,
https://www.ncci.com/Articles/Pages/II_OnOpioids-Doctors.aspx;

“Opium Dealers on Trial with Drug Addicts,” *Houston Daily Post*, September 26, 1919, p. 5,
<https://texashistory.unt.edu/ark:/67531/metaph608318/>.

“Prescription Opioid Use is a Risk Factor for Heroin Use,” National Institute on Drug Abuse, January 2018, <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-heroin-abuse/prescription-opioid-use-risk-factor-heroin-use>;

“Professor Henry P. Hynson,” *Drug Trade Weekly* 4 (April 23, 1921), 15;

“Questionnaire [sic] re Drug Habit,” box 6, and Kolb to Remig, November 14, 1927, box 4, both Lawrence Kolb Papers, History of Medicine Division, National Library of Medicine, Bethesda, Maryland.

“The Dope Doctor and Other City Cousins of the Moonshiner,” *Survey* 44 (1920).

“The Opium Habit: Some Extraordinary Stories of the Extravagant Use of the Drug in Virginia,” *New York Times*, March 2, 1878.

“The Opium Habit’s Power,” *New York Times*, December 30, 1877.

“The Opium Habit’s Power: Popular Errors Corrected,” *New York Times*, January 6, 1978.

“The Power of the Poppy: Exploring Opium Through ‘The Wizard of Oz,’” National Museum of American History, November 9, 2016, <https://americanhistory.si.edu/blog/opium-through-wizard-oz>;

“The Wizard of Oz: An American Fairy Tale,” Library of Congress,
<http://www.loc.gov/exhibits/oz/ozsect2.html>;

“Three Doctors Face Narcotics Quiz Thursday,” *Washington Evening Star*, January 26, 1943, B-1,
https://chroniclingamerica.loc.gov/data/batches/dlc_1xul_ver01/data/sn83045462/00280603338/1943012601/0556.pdf.

“We Want to Know,” *Pharmaceutical Era* 29 (1903).

“What Science Tells Us About Opioid Abuse and Addiction” (Dr. Volkow’s testimony before U.S. Senate Judiciary Committee, January 27, 2016), <https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/what-science-tells-us-about-opioid-abuse-and-addiction>.

“You are served 14 ways better ... by McKesson,” brochure (N.c.: McKesson, 1959), n. p., both Kremers Reference Files, F.B. Power Pharmaceutical Library, Madison, Wisconsin

21 CFR Ch. II (April 1, 1996 edition) §§ 1301.73, 1301.74, <https://www.gpo.gov/fdsys/pkg/CFR-1996-title21-vol9/pdf/CFR-1996-title21-vol9-sec1301-74.pdf>.

Acts of the Legislature of West Virginia: Regular and Extra Sessions, 1907 (Charleston, W.V.: Tribune Printing Co., 1907), City of Charleston, Chap. 3, Sec. 62;

Acts of the Legislature of West Virginia: Regular Session 1915: Municipal Charters (Charleston, W.V.: Tribune Printing Co., 1915), pp. 169, 214, 251, 478,

<https://babel.hathitrust.org/cgi/pt/search?q1=martinsburg&id=umn.31951d02280027t&view=1up&seq=11>.

Alex Mold, “‘Everybody Likes a Drink. Nobody Likes a Drunk’: Alcohol, Health Education and the Public in 1970s Britain,” *Social History of Medicine* 30 (2017).

and Acts of the Fiftieth Legislature of West Virginia: Regular Session, 1951, Chapter 154, Article 8-a, <https://babel.hathitrust.org/cgi/pt?id=umn.31951d02280055o&view=1up&seq=7>.

Anna Lembke, *Drug Dealer, MD: How Doctors Were Duped, Patients Got Hooked, and Why It’s So Hard to Stop* (Baltimore: Johns Hopkins University Press, 2016).

Anna Lembke, *Drug Dealer, MD: How Doctors Were Duped, Patients Got Hooked, and Why It’s So Hard to Stop* (Baltimore: Johns Hopkins University Press, 2016);

Art Van Zee, “The Promotion and Marketing of OxyContin: Commercial Triumph, Public Health Tragedy,” *American Journal of Public Health* 99 (2009)

Aspirin ads elsewhere: e.g., Texas’s *Carrollton Chronicle*, March 14, 1924, p. 2, <https://texashistory.unt.edu/ark:/67531/metaph592203/>.

Aspirin: e.g., *Moorefield Examiner* (Moorefield, W.V.), November 13, 1924, p. 1, http://wvnewspapers.advantage-preservation.com/viewer/?i=f&by=1924&bdd=1920&d=01011910-12311945&e=bayer&m=between&ord=e1&fn=moorefield_examiner_usa_west_virginia_moorefield_19241113_english_1&df=1&dt=10.

Austin Frakt and Toni Monkovic, “A ‘Rare Case Where Racial Biases’ Protected African-Americans” [sic], *New York Times*, November 25, 2019, updated online December 2, 2019, <https://www.nytimes.com/2019/11/25/upshot/opioid-epidemic-blacks.html>.

Barry Meier, *Pain Killer: An Empire of Deceit and the Origins of America’s Opioid Epidemic*, expanded ed. (New York: Random House, 2018)

Beth Macy, *Dopesick: Dealers, Doctors, and the Drug Company that Addicted America* (New York: Little, Brown, 2018);

Bonyge to Hamilton Wright, August 12, 1908, box 29, USIOC;

Brian T. Yeh, “The Controlled Substances Act: Regulatory Requirements,” *Congressional Research Service*, December 13, 2012, p. 4, <https://fas.org/sgp/crs/misc/RL34635.pdf> (“closed”).

Brief on Behalf of the United States, *W.S. Webb and Jacob Goldbaum v. The United States* (Washington: Government Printing Office, 1919).

Burroughs to Ginsberg, June 16, 1954, Letters of William S. Burroughs, ed. Harris, 215.

Carl Scheffel, “The Etiology of Fifty Cases of Drug Addictions,” *Medical Record* 94 (1918):

Caroline Jean Acker, “From All-Purpose Anodyne to Marker of Deviance: Physicians’ Attitudes towards Opiates in the US from 1890 to 1940,” in *Drugs and Narcotics in History*, ed. Roy Porter and Mikuláš Teich (Cambridge: Cambridge University Press, 1995).

Caroline Jean Acker, *Creating the American Junkie: Addiction Research in the Classic Era of Narcotic Control* (Baltimore: Johns Hopkins University Press, 2002).

- Castoria: Hampshire Review, April 12, 1894, p. 4, http://wvnewspapers.advantage-preservation.com/viewer/?k=castoria%20morphine&i=f&d=01011880-12311899&m=between&ord=k1&fn=the_hampshire_review_usa_west_virginia_romney_18940412_english_4&df=1&dt=10;
- CDAN meeting minutes of April 15, 1947 (“abusive”) and April 22, 1947.
- Charles A. West to Hamilton Wright, August 14, 1908, vol. 3, Massachusetts to New Mexico correspondence, USIOC;
- Charles B. Whilden, California State Board of Pharmacy, to Hamilton Wright, September 17, 1908, p. 4, box 43, USIOC.
- Charles E. Sceleth and Sydney Kuh, “Drug Addiction,” JAMA 82 (1924).
- Charles E. Terry and Mildred Pellens, *The Opium Problem*, reprint ed. (Montclair, N.J.: Patterson Smith, 1970);
- Chris McGreal, *American Overdose: The Opioid Tragedy in Three Acts* (New York: Public Affairs, 2018)
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